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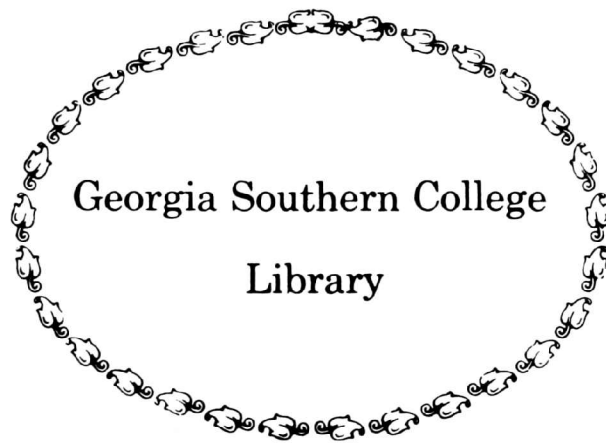
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GEORGIA'S LOTTERY FUNDED PREKINDERGARTEN:
IS IT WORKING IN RURAL GEORGIA?

Elizabeth Jenkins Kimball



GEORGIA'S LOTTERY FUNDED PREKINDERGARTEN:
IS IT WORKING IN RURAL GEORGIA?

A Dissertation
Presented to
the College of Graduate Studies of
Georgia Southern University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education
in
Educational Administration

by
Elizabeth Jenkins Kimball

June 1998

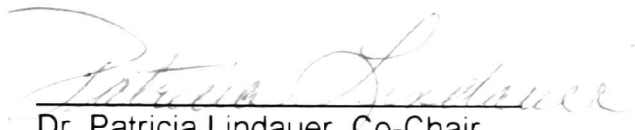
April 17, 1998

To the Graduate School:

This dissertation entitled "Georgia's Lottery Funded Prekindergarten: Is it Working in Rural Georgia?" and written by Elizabeth Jenkins Kimball is presented to the College of Graduate Studies of Georgia Southern University. I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education with a major in Educational Administration.


Dr. Garth Petrie, Dissertation Advisor

We have reviewed this dissertation
and recommend its acceptance:

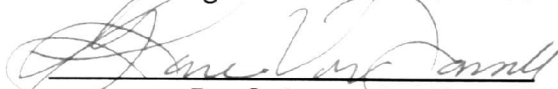

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traveling companion. He has made the trip down the doctoral road enriching, eventful, and unforgettable.

VITA

Elizabeth Jenkins Kimball attended elementary and high school in Birmingham, Alabama. She received her Bachelor of Education degree from the University of Georgia in Special Education/ Mental Retardation.

After moving to south Georgia, she attended Valdosta State College where she received both her Master of Education and Educational Specialist degrees in the field of special education. She has recently been awarded the Doctorate of Education degree in Educational Administration from Georgia Southern University.

Elizabeth taught intellectually disabled children for the first sixteen years of her career. For the last several years, she has served as an administrator in Jeff Davis County Schools. Her responsibilities include Director of Special Education, Attendance Officer, and PreK Director. She is also a Georgia PINES parent advisor where she works directly with the families of very young visually impaired and blind children. She currently resides in Vidalia, Georgia with her husband, Lewis.

ABSTRACT

GEORGIA'S LOTTERY FUNDED PREKINDERGARTEN: IS IT WORKING IN RURAL GEORGIA?

JUNE 1998

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This study examined the impact of Georgia's lottery-funded PreK on its participants' preparedness for kindergarten. The following question was posited: Have Georgia's lottery-funded PreK participants in rural Georgia entered kindergarten with differences in preparedness from entering kindergartners who did not participate? Participation in alternate types of prekindergarten included participation in Head Start, participation in the category of other programs (private, church, or day-care), or no participation in any type of program. Data was collected in twelve school systems in five Regional Educational Service Agencies (RESA) districts in rural southern Georgia. Two criteria were established for participation in this study: (1) entering kindergartners participated in kindergarten screening; and (2) the Developmental Indicators for the Assessment of Learning-Revised (DIAL-R) was used as one of the screening instruments. Kindergarten retainees were excluded. Information describing

race, gender, type of prekindergarten program, and total DIAL-R score for each student was requested. Data sheets were returned by 83 of the 94 kindergarten teachers for an overall return rate of 88%.

An examination of the mean scores on the DIAL-R yielded the following results. Students participating in the category of other prekindergarten programs had the highest mean scores on the DIAL-R; students participating in Georgia's lottery-funded PreK yielded the second highest mean scores; students participating in Head Start produced the second lowest scores; and students who did not participate in any form of prekindergarten yielded the lowest mean scores.

Analyses of the data were conducted through a one-way ANOVA and post hoc procedures. It was established that statistically significant differences did exist among the four prekindergarten groups with respect to the varying prekindergarten experiences. Participants in Georgia's lottery-funded PreK program did have significantly higher scores than students who did not participate in any form of prekindergarten. Ancillary findings revealed that there were statistically significant differences found between students who participated in the category of other forms of prekindergarten and those students who did not participate in any form of prekindergarten. Also, females were more prepared than males. Thus, participation in Georgia's lottery-funded PreK program and participation in the category of other prekindergarten (private, church, day-care) yielded DIAL-R total scores that were significantly higher than those of students who did not participate in any type of prekindergarten. Because the Dial-R scores were higher, these students can be considered to be better prepared for kindergarten.

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Chapter I

INTRODUCTION TO THE STUDY

Introduction

The National Education Association has published advertisements in a variety of national magazines heralding an expansion of early childcare programs; four out of every five states have begun allocating funds for early childhood education programs; and early intervention is the focus of the America 2000 Plan. Funding issues, appropriate curriculum, and the educational impact of early intervention on later school success have become major issues for legislators and educators (Neugebauer, 1991).

During federal subcommittee hearings on the 1998 budget, experts presented the recent research on a child's brain development during his/her first three years of life. The emphasis was on the importance of changing state education policies to focus more on programs that advance early childhood development in a proactive effort to solve some of education's most pressing problems which develop later in the school careers of some children (Sack, 1997). The increased attention on the importance of early intervention programs was demonstrated by the priorities set by the 89th annual National Governors' Association at the July conference (Jacobson & White, 1997). A major portion of the conference agenda was devoted to early-childhood initiatives.

Historically, the federal government has recognized the importance of early childhood education with a legislative focus on two specific groups, the disadvantaged and the disabled. The Economic Opportunity Act (1964) with its subsequent amendments allowed for the implementation of Head Start (Kimbrough & Nunnery, 1988). Head Start was designed as an educational program for those children who lived in poverty. Its focus has been on early

childhood instruction that provided learning experiences that the economically disadvantaged may have missed. Its purpose was to provide these children with a chance to catch up before they entered public school. Federal funding is currently being provided for children as young as age three through the implementation of Head Start programs (Kirk, Gallagher & Anastasiow, 1993).

Concurrently, advocates for the disabled recognized the benefits of early intervention and have lobbied for federal assistance for the education of the very young disabled child. The Handicapped Children's Early Education Assistance Act, which passed in 1968, provided federal funds for the development of experimental programs for disabled children from birth to age six. With the implementation of the Education of the Handicapped Act in 1974, states were required to establish the goal of providing full educational opportunities for all disabled individuals from birth to age 21. Federal legislation that has had significant financial and educational impact on the individual states was the Education for All Handicapped Children Act of 1975 and the more recent Individuals with Disabilities Education Act of 1990 (IDEA). Both acts required states to provide a free appropriate public education to all disabled children beginning with their third birthday. With the passage in 1986 of Part H of the Education of the Handicapped Act, which provided comprehensive services from birth through age two, early intervention for the disabled became a permanent reality with funding support by the federal government (Kirk, Gallagher & Anastasiow, 1993). Warfield's findings (1994) illustrated the positive impact of early intervention and early childhood education. These findings indicated that a financial investment and a commitment to the education of preschool disabled children resulted in improvement in adaptive behavior and child/parent interaction.

With a national focus on school reform calling for more accountability and increased achievement scores (DeRoche, 1997) and an increased awareness of the importance of establishing a good foundation for entering school, there has been growing interest in programs for four-year-old preschool children (Adams & Sandfort, 1994). To illustrate the increasing importance of this issue, the first goal of Goals 2000: Educate America Act (U.S. Department of Education, 1997) emphasized the need for early childhood education, "All children in America will start school ready to learn" (p. 1). As another example, Willis (1997) took the position that early childhood programs are useful in preventing problems that could be more expensive to remediate in later school years. He maintained the need for preschool programs was particularly acute for those children who come from families with a low socio-economic status and repressive social histories (i.e., violence, parental drug use, single parent homes).

As a result of indications that many young children entered kindergarten poorly prepared and achieved below their potential in the early grades, the Carnegie Corporation of New York issued a report, Years of Promise: A Comprehensive Learning Strategy for America's Children (Jacobson, 1996). One component of this report specific to early childhood concerns called for the expansion of high-quality preschool programs with funding for these programs a priority at national and state levels. Participation in high-quality pre-school programs of some form could enhance the preparedness of the participants as they enter formal schooling. The inclusion of parent education programs was also a recommendation of this committee.

The initiatives that will prepare preschool children to succeed in school have grown (Adams & Sandfort, 1994). Between 1979 and 1992, direct educational services to preschool children offered by the states nearly tripled. With the exclusion of federal funds spent on preschoolers through Title I or the

Individuals with Disabilities Education Act, by 1991 a national total of 665 million dollars had been spent on 290,000 preschool age children. Quality comprehensive preschool services have been recognized on the national level as critical in providing a successful entry into public kindergarten. States offer a variety of services ranging from comprehensive early child care systems to small pilot projects for the most at-risk child.

Existing early childhood education programs have been under review by both the public and by policy makers. Head Start has received a good deal of scrutiny. Some critics suggested that to be effective in the use of federal dollars, Head Start should expand to include programs for three to six-year-old children beginning at age three with the most at-risk children being the highest priority (Fuerst & Petty, 1996). Zigler (1992) proposed that Head Start could be successful if infants and toddlers were included with those who received service. He added that in order to accomplish its goals, Head Start should receive full funding. At a recent White House conference, President Clinton called for an expansion of Head Start enrollment of one-third by the year 1998 (Jacobson, 1997a).

While early childhood education programs have been of interest to legislators and advocates at the national level, policy makers at the state level have also recognized the impact and benefits of early childhood education. During his first term, Governor Zell Miller introduced an innovative and comprehensive preschool program for Georgia's at-risk four-year-olds. Of significance was the governor's promise that this program would be fully funded by the proceeds from the proposed Georgia lottery (L. White, Assistant Superintendent, Jeff Davis County School System, conference notes, January 8, 1993). Voters in the state approved the lottery bill and in January of 1993, Georgia's lottery-funded prekindergarten (PreK) became a reality (Purser, 1993). During the governor's

bid for re-election, the program was expanded to include not only those four-year-olds who were identified as at-risk, but all of Georgia's four-year-olds (LoMonte, 1995). Governor Miller has touted the positive long-term effects of early intervention. "Every dollar spent on PreK is going to save \$10 down the line---on welfare rolls, unemployment, and the cost of prison" (Pendersen & Wingert, 1997, p. 44).

Purpose of the Study

The purpose of this study was to determine if Georgia's lottery-funded PreK participants in rural Georgia have entered kindergarten with differences in preparedness from students who did not participate in this program. Participants in alternate types of prekindergarten programs are those children who participated in Head Start, no prekindergarten programs, or the category of other prekindergarten programs (private, day-care, or church). Research that investigates its successfulness in preparing its participants will be useful to Georgia's lottery-funded PreK project directors, state legislators, and Office of School Readiness personnel when determining if Georgia's lottery-funded PreK program should be continued or remodeled. At a national level, results of this study may be useful to those advocates of early childhood education programs who develop national policies which address early childhood education and solicit funding for these programs.

Statement of the Problem

The sole research conducted for preliminary investigations into Georgia's lottery-funded PreK was completed by the Department of Early Childhood at Georgia State University (Pilcher, 1994; Quay, 1996) in conjunction with the Council for School Performance at Georgia State University (1996). Several aspects of Georgia's lottery-funded PreK were examined: attendance; choice of curricula; retention; developmental growth; parental perceptions; and ITBS

scores. These studies included only at-risk populations of four-year-olds. Georgia's lottery-funded PreK has recently received criticism ("New Study," 1997; "Prekindergarten Program," 1997; Viadero, 1997) with reports of little significant improvement on kindergarten tests and fading academic gains. However, creators of Georgia's lottery-funded PreK program have stated the goal of the program was to provide learning experiences that will prepare its participants for kindergarten (Office of School Readiness, 1997a). Results of Pilcher's (1994) longitudinal study demonstrated that Georgia's lottery-funded PreK participants had better attendance in school, higher scores than the national average on the Iowa Test of Basic Skills, and higher ratings on general academic skills.

In order to guide the development of future lottery-funded PreK programs and to plan for early childhood educational policies, further evaluation of Georgia's lottery-funded PreK program, which is now available to all of Georgia's four-year-olds, was imperative. A study of Georgia's lottery-funded PreK program which investigated all program participants' preparedness for kindergarten, not just those considered at-risk, was needed.

With this need identified, the following research question was posited: Have Georgia's lottery-funded PreK students in rural Georgia entered kindergarten with differences in preparedness from those students who did not participate in Georgia's lottery-funded PreK program? Participants in alternate types of prekindergarten are those students who participated in Head Start, no prekindergarten programs, or the category of other prekindergarten programs (private, church, or day-care).

Importance of the Study

It has been the contention of the Association for Supervision and Curriculum Development Early Childhood Policy Panel (1988) that high-quality early

childhood education programs have enhanced the social and economic development of the nation. Policy makers should be informed of successful early childhood education programs. For early childhood education programs to become a matter of state and federal policy, these policy makers must be convinced of the importance of such programs (Goffin & Lombardi, 1988). Warfield (1994) suggested that it is critical that policy makers and directors of early intervention and early childhood education programs analyze the efficacy of the various early intervention and early childhood education approaches in order to determine how to effectively distribute limited resources. The National Association for the Education of Young Children (NAEYC, 1997a) has taken the position that policy makers should develop policies that improve program quality, provide access to all families, and promote collaboration and coordination among agencies and communities.

An examination of the effectiveness of Georgia's lottery-funded PreK program has been important to those directly involved in the making of educational policy and crucial for the future of Georgia's lottery-funded PreK program and its participants. Evaluation of public policy has been a critical step in the policy process (Goffin & Lombardi, 1988). Richmond and Kotelchuck (1984) identified three levels of an educational policy: a knowledge base, a public constituency, and a plan to accomplish a goal. All three levels of educational policy have been addressed by this study which compares the kindergarten screening scores on the Developmental Indicators for the Assessment of Learning-Revised (DIAL-R) of entering kindergartners who have had a variety of preschool experiences. First, these results have provided policy makers with information which have expanded their knowledge base. Second, parents, teachers, and Georgia's lottery-funded PreK project directors have found these results useful when organizing political support and when participating in program planning.

Third, with a mandated developmentally appropriate curriculum, Georgia's lottery-funded PreK program has offered a plan for accomplishing the National Education goal that every child will enter kindergarten ready to learn (U.S. Department of Education, 1997).

Assumptions

For the purposes of this study, it was assumed that:

- (1) Data sheets were completed accurately.
- (2) All of Georgia's lottery-funded PreK programs adhered to Georgia PreK Operating Guidelines developed by the Office of School Readiness (1997b).
- (3) The large sample size allowed for equivalence in age distribution in all of the four prekindergarten groups.

Limitations

- (1) This study was limited to those entering kindergartners in rural Georgia who participated in kindergarten screening which used the DIAL-R as a screening instrument.
- (2) This study was limited to only those kindergartners who entered kindergarten during the 1997-1998 school year.

Definition of Terms

DIAL-R: A screening instrument developed for use with preschool children which identifies those children with potential developmental problems, those that are developing at an average rate, and those children who are developing in an advanced manner (Conoley & Impara, 1995).

Early childhood education: Organized educational programs for children who are not old enough to enroll in kindergarten.

Georgia's lottery-funded prekindergarten program: A prekindergarten program which is available to all of Georgia's four-year-olds. This program is fully funded from Georgia's lottery proceeds. The program must adhere to

specific guidelines as outlined in the Georgia PreK Operating Guidelines developed by the Office of School Readiness (1997b).

Head Start: A preschool program for three and four-year olds which was established by amendments to the Economic Opportunity Act of 1964. This is a federally funded program which is available to children identified by federal guidelines as economically disadvantaged or at-risk (Kimbrough & Nunnery, 1988).

Kindergarten: The school experience which immediately precedes first grade.

Kindergarten preparedness: A set of skills defined in the literature that is deemed necessary for students to have a successful experience in kindergarten and measured by the Developmental Indicators for the Assessment of Learning-Revised.

Kindergarten screening: An activity which is organized by local school districts where school personnel administer a battery of standardized or informal assessments which evaluate a student's cognitive, social, physical, and language development before he/she enters kindergarten.

Prekindergarten: Any form of organized school experience which is designed for four-year-old children.

Preschool: Any form of organized school experience for three and four-year-old children which precedes kindergarten.

Private prekindergarten: Any type of organized classroom experience immediately prior to kindergarten that is not funded by the local school system, the Georgia lottery, or Head Start

Kindergarten teacher: Personnel who hold valid Georgia teaching certificates and are currently employed as kindergarten instructors in Georgia's public schools.

Rural: Those counties which have no military bases and no four-year public colleges or universities.

Chapter II

RELATED LITERATURE

Introduction

Funding issues, appropriate curriculum, and the educational impact of early childhood education on later school success have become major issues for legislators and educators (Neugebauer, 1991). With a national focus on school reform calling for more accountability and increased achievement scores (DeRoche, 1997) and an increased awareness of the importance of establishing a good foundation for entering school, there has been a growing interest in programs for four-year-old children (Adams & Sandfort, 1994). For early childhood programs to become a matter of state and federal policy, policy makers must be convinced of the importance of such programs (Goffin & Lombardi, 1988). Warfield (1994) suggested that it was critical that policy makers and directors of early childhood education programs analyze the efficacy of the various early childhood education approaches in order to determine how to effectively distribute limited resources. During Governor Miller's first term (Sherman, 1991), his innovative plan, Georgia Lottery for Education, became a reality. One component of this plan was the funding of prekindergarten programs with the proceeds from the Georgia lottery. An examination of the effectiveness of Georgia's lottery-funded PreK program was important to those directly involved in the making of educational policy and crucial for the future of Georgia's lottery-funded PreK program participants. With this need identified, the following question was posited: Have Georgia's lottery-funded PreK students in rural southern Georgia entered kindergarten with differences in preparedness than students who did not participate in Georgia's lottery-funded

PreK program? Participation in alternate types of prekindergarten included: Head Start, the category of other, or no participation.

Impact of Early Childhood Education Programs

Fading Effects

Critics of early childhood educational services have cited the fading academic effects and indicators of its ineffectiveness (Gray, 1993; Lee & Loeb, 1995; "Pre-kindergarten Program," 1997). Beckler's (1970) early studies of academic gains after preschool indicated that by the third grade, the academic advantages attained through preschool participation had diminished. These results were substantiated by Gray (1983) with the findings that until the fourth grade, children who had received early childhood education were superior to those who had not received intervention. No significant differences were found on tests of intelligence at that time. However, marked differences were found on two variables, placement in special education and grade retention. Gray pointed out that it would be naive to expect that participation in early childhood education programs would be the panacea that would correct the problems of a whole nation. However, the author indicated that the lasting effects of less grade retentions and fewer referrals to special education could affect the public school budget in a positive way.

Reynolds (1993) studied at-risk children who had participated in Preschool plus Follow-on Intervention in several Child Parent Centers in the Chicago Public Schools. Preschool plus Follow-on Intervention provided comprehensive health, social, academic, and supportive services with individualized, tailored instruction in small class settings. Services were offered through the second grade. Reynolds found that participation through the second grade did improve reading and math achievement. However, the fading effects of early intervention

were observed in those children that did not participate in all levels of the program (preschool through second grade). Reynolds reflected on the results:

While the lack of long-term effects on scholastic achievement was initially interpreted to mean that preschool is ineffective, it is now widely acknowledged that it is unrealistic to expect preschool or any short-term intervention by itself to permanently alter children's cognitive and social development, especially without taking into account the environments children enter after preschool. (p. 5)

The impact of Title I preschool in the Charlotte-Mecklenburg public school district was examined by Seawell and Ross (1992). Few significant differences were found in classroom behavior among children who had participated in Title I preschool and those that had either no preschool or day-care experience. Surprisingly, retention rates were higher for the Title I preschool group and for males. However, the author contended that results showed that the effects of early emphasis on communication and listening skills were being observed by classroom teachers two years after the subjects' participation in Title I preschool.

Condry (1983) identified four model early childhood education programs that began in the 1960s and were sites for longitudinal studies. Gray's Early Training Project, the Deutsches' Institute for Developmental Studies, Beller's Philadelphia Project, and Weikart's Perry Preschool Project participated in research projects that began in the 1960s and concluded by the mid-1970s. Although there were significant intellectual gains while subjects participated in these programs, there was a decrease in these gains after program completion. However, lasting positive effects have been found in subjects' social and emotional behavior as well as motivational levels.

Two additional studies (Lee & Loeb, 1995; Marcon, 1994) concurred that there are fading effects for children who had participated in early childhood education programs but attributed this not to early intervention itself, but suggested that other variables produced these effects. Lee and Loeb contended that former Head Start students attended schools in the nation's lowest quality institutions which were unsafe, lacked academic stimulation, and had economically deprived populations accounting for some of the fading effects.

Marcon (1994) studied the academic progress of children who had received intervention through Head Start and another form of preschool as they progressed through the third, fourth, and fifth grades as compared to a matched group that had no preschool participation. Marcon concluded that participation in early childhood education programs had a positive effect on later school performance. This is particularly true for those children who had not been retained. However, fourth-grade children who had participated in the academically oriented preschool program were earning lower grades. In the fifth-grade, these same children were developmentally behind their peers and exhibited more maladaptive behaviors. She suggested that a re-examination of retention policies and the establishment of developmentally appropriate programs for young children may extend the early positive results of early childhood education

Long Lasting Effects

The long lasting effects of early childhood education programs in terms of social benefits have been documented in the literature. The Perry Preschool longitudinal studies (Schweinhart, 1988; Schweinhart & Weikart, 1993; Schweinhart, Weikart, & Lerner, 1986) provided a plethora of information that were powerful examples of research that investigated these long term social benefits. In one of these studies, at-risk children were assigned to two groups

(preschool and no preschool) and followed until they were 27 years of age (Schweinhart, 1988). The results of this study indicated that preschool education resulted in short-term benefits in intellectual development and improved social skills at the elementary level. Remarkably, long-term social benefits were evidenced by a decreased need for welfare services, reduced risks of school dropout, less juvenile delinquency, and a smaller rate of unemployment. Findings in another Perry Preschool study (Schweinhart & Weikart, 1993) supported the economic value of preschool education. For every dollar invested, preschool education returned to the nation \$7.16 over the lifetime of the students. Schweinhart, Weikart, and Larner (1986) demonstrated that improvements in children's intellectual and academic performance can be improved by participation in high-quality preschool programs (e.g., High/Scope) rather than in teacher-directed formal academic programs. In high-quality preschool programs, activities are designed which reflect a child's individual age and developmental stage (South Carolina Educational Network, 1987). Children learn through discovery and active exploration. Conversely, the curriculum in teacher-directed academic programs is uniform with the same set of expectations for each child. Children maintain a tight schedule and are taught the skills for school success (Office of Educational Research and Improvement, 1990).

The Perry Preschool studies (Schweinhart, 1988; Schweinhart, 1994; Schweinhart & Weikart, 1993; Schweinhart, Weikart & Larner, 1986) were an expansive body of research in early intervention. Other literature corroborated their results. Warger (1988) argued that through participation in preschool, students have the potential for greater achievement, an adolescence with less at-risk behavior, and improved educational opportunities. In a review of educational research on the efficacy of early childhood education, Campbell and

Taylor (1996) concluded, "Many participants made higher academic test scores and better progress through schools, as reflected in fewer retentions, fewer placements into special education, and higher rates of graduation" (p. 7). In their description of a recently implemented dropout prevention program, Cleary and Bell (1990) stressed the importance of early intervention combined with parent involvement. The results of the 1985 Department of Education study of Head Start were used as support of this dropout prevention program: (a) children who participated in Head Start attained greater success in school; (b) there were lower rates of juvenile crime among program participants; (c) program participants had less welfare dependency; and (d) fewer teen pregnancies have been documented.

Success for All (Slavin, Madden, Dolan, & Wasik, 1995) is a program that emphasized the need for every child to be able to experience reading success in the early grades. This program focused on prevention in an effort to decrease the amount of remediation required in later school years. One requirement for prevention was early intervention. The preschool programs used a curriculum that was developmentally appropriate with enhanced language opportunities. Half-day preschool and full-day kindergartens were in most of the Success for All schools. Results of a seven-year longitudinal study in 19 Success for All schools showed that the program clearly improved reading achievement with a particularly large impact on limited English proficient students and special education students. There were also fewer referrals to special education in the Success for All schools.

In a review of longitudinal studies of several early childhood education programs across the nation (Zigler, Taussig, & Black, 1992), evidence was found suggesting early childhood education experiences produced social success. Some of the risk factors associated with juvenile delinquency have been

reduced. Personality characteristics such as motivation and sociability were enhanced. Parental involvement, continuity of the programs, and an early age of involvement were factors that were common to the programs that were evaluated.

The Philadelphia Study (Beller, 1983) was a 12-year longitudinal project that examined the impact that the length of preschool had on the intellectual and emotional development of children with a low socio-economic status. A comprehensive assessment of the subjects' aptitude, school grades, academic performance, grade retention, attitudes, motivation, self-concept, and moral judgment was gathered through multiple criteria methods. First, results of the study indicated that the positive effect of early childhood education on cognitive ability was greater the earlier a child entered the program. These results were sustained through the fourth grade (when the measurement of cognitive growth ceased). Second, the length of early childhood education yielded significant effects on academic achievement. These results were more consistent with girls and disappeared by the fifth grade. Third, any amount of early childhood education had positive effects on attitudes and motivation. Last, fourth-grade children with no early childhood education were more conflicted in expression of dependency needs while children with two years of early childhood experience expressed their needs more appropriately.

Benefits of Early Childhood Education

While research (Beckler, 1970; Gray, 1983; Marcon, 1994) has indicated that the initial cognitive gains of those children who participated in some form of early childhood education program seem to fade away by the upper elementary years, there is a great deal of evidence to support the practical significance of early childhood education and its long-term social benefits. Perhaps it has been best summarized by Schweinhart (1994). The lasting benefits of early childhood

education programs and the return on public dollars invested can be seen in the combined results of the research that indicates: (a) fewer program participants were placed in special education; (b) fewer program participants were ever retained; (c) significantly higher graduation rates were demonstrated; (d) participants averaged fewer criminal arrests; and (e) significant intellectual gains were demonstrated by participants during the year of involvement and two years after. Returns to taxpayers were gained from the higher taxes that participants in early childhood education paid because they have had higher earnings, savings to the welfare system, savings in public school funds in less special education placements and retentions, and by savings to the penal system with less incarcerations.

The National Association of School Psychologists (1997) issued a position statement, which was adopted by the NASP Delegate Assembly in April, 1989, supporting the need for early childhood care and education. Children who participated in early childhood programs could regulate their behavior, verbalize their desires, explore their surroundings, and play cooperatively. It was further stated in the NASP position statement that both short and long-term gains and long-term benefits have been reported for those children who participated in early childhood programs. Regardless of the debate about the lasting effects of early childhood education, it has generally been accepted that there has been an immediate positive effect on school success for those at-risk children who had participated in early childhood education programs (Anderson, 1994; Quay, 1993; Seawell & Ross, 1992).

The benefits of intervention and education at an early age have received recent attention. In conjunction with the Week of the Young Child, President Clinton convened the White House Conference on Early Child Development (NAEYC, 1997c). The conference agenda focused on the need for high-quality

early child-care programs and highlighted the new findings in brain development research. These findings have confirmed the importance of good prenatal care, the importance of child-adult attachments, and the need for age-appropriate stimulation from the time of birth (Newberger, 1997). The Education Commission of the States and the Families and Work Institute have sponsored conferences which have provided a forum where scientists, policy makers, and educators can investigate these findings.

The Families and Work Institute (1996) summarized the information on brain development and its impact on education of the young child. First, learning is the interplay of a child's genetic history, nutritional opportunities, stimulation, and educational exposure. Second, early care in secure environments have long-lasting effects on how children learn and develop. Third, the human brain can change but the first ten years of a child's life are the optimal times for change. Fourth, early exposure to alcohol and drugs has serious negative impact. Fifth, early childhood education can positively impact a child's social, cognitive, and emotional development. This research on brain development and the impact of environment and education on a child's growth has had implications for the nation's policy makers.

Georgia's New Bill: Georgia Lottery for Education

The Georgia Lottery

The national attention on early intervention trickled to the state level when gubernatorial candidate Zell Miller proposed a plan for a Georgia Lottery with all proceeds (beyond administrative expenses) from the lottery going to education. During Governor Miller's first term (Sherman, 1991), his plan for funding prekindergarten programs, scholarships, and computers through the Georgia Lottery for Education became a reality. With an emphasis on increasing student performance in school through incentives and technological assistance,

educational initiatives have been earmarked for financial support by the lottery (Schulz, 1997). The legislation identified three areas as recipients of the lottery proceeds: (a) HOPE (Helping Outstanding Pupils Educationally) scholarship programs provide free college/technical school tuition, fees, and books to those students who maintain a minimum of a B average; (b) security systems and computers; and (c) voluntary prekindergarten for Georgia's four-year-olds ("Georgia Lottery's School Fund," 1997). All lottery proceeds are earmarked for these designated educational programs.

The Georgia lottery initiative (Jacobson, 1997b) has gained advocates both at the state and national levels. Legislators in other states have begun to investigate ways to create a lottery which will increase school funding as opposed to replacing existing funding as lotteries of the past have done. President Clinton has developed a tuition tax credit plan, America's Hope Program, modeled after Georgia's lottery scholarship program.

Georgia's Lottery-Funded Prekindergarten

During his first term, Governor Zell Miller introduced an innovative and comprehensive preschool program for Georgia's at-risk four-year-olds. Of significance was the governor's promise that this program would be fully funded by the proceeds from the proposed Georgia lottery (L. White, Assistant Superintendent, Jeff Davis County School System, conference notes, January 8, 1993). Voters in the state approved the lottery bill, Georgia Lottery for Education, and in January of 1993, Georgia's lottery-funded prekindergarten (PreK) became a reality (Purser, 1993). During the governor's bid for re-election, the program was expanded to include not only those four-year-olds who were identified as at-risk, but all of Georgia's four-year-olds (LoMonte, 1995). Governor Miller has touted the positive long-term effects of early intervention.

"Every dollar spent on PreK is going to save \$10 down the line-on welfare rolls, unemployment, and the cost of prison" (Pendersen & Wingert, 1997, p. 44).

Georgia's lottery-funded PreK program has been presented to the public as an innovative program for four-year-olds. Its mission statement (Office of School Readiness, 1997a) has been presented to the public: "Preparing our children for success in school is the best gift we can give them" (p. 7). Unique to this program were several components (Office of School Readiness, 1996) which included: (a) after school day-care; (b) a resource coordinator whose responsibilities include parent education and support; (c) flexibility in fiscal agents (private day-care, public school, private non-profit institutions); and (d) the requirement of a child centered curriculum (i.e., High/Scope, Creative Curriculum, Bank Street, High Reach Framework, or Montessori).

Directives in The Georgia PreK Operating Guidelines (Office of School Readiness, 1996, 1997b) prohibited any formal testing of Georgia's lottery-funded PreK participants. As a result of restructuring at the state level, Georgia's lottery-funded PreK program was moved from the State Department of Education to the newly established Office of School Readiness. This department is in direct line to the governor's office and includes such programs as Head Start, registered day-care, and nutrition (E. Whitlock & J. Garber, Office of School Readiness, personal communication, April 23, 1996).

True to the campaign promise, despite two years of incomplete funding (Evans & Loupe, 1995), Georgia's lottery-funded PreK has become fully funded by lottery proceeds (K. Gooding, Office of School Readiness, personal communication, June 7, 1996). The Office of School Readiness, the regulatory agency for Georgia's lottery-funded PreK, reported that since Georgia's lottery-funded PreK began, 505 million dollars had been spent on 130,000 children. During the school year 1996, 205 million dollars were spent on 60,000 four-

year-olds (E. Webb, Office of School Readiness, personal communication, January 9, 1997).

The goal of the creators of Georgia's lottery-funded PreK program has been to provide Georgia's young children with the learning experiences they need in order to prepare them for kindergarten (Office of School Readiness, 1997a). The impact of Georgia's lottery-funded PreK on early school success was recently cited as one of the factors that had reduced the numbers of students who were being retained in Georgia's kindergartens (M. Vollmer, Office of School Readiness, personal communication, December 16, 1996). Pilcher (1994) and Quay (1996) studied at-risk kindergarten children who participated in Georgia's lottery-funded PreK one year after program enrollment. It was found that kindergartners who had participated in Georgia's lottery-funded PreK program differed from other kindergartners with higher ratings in the developmental areas of academic, social, communication, physical, and self-help. Georgia's lottery-funded PreK children had fewer absences in kindergarten and more promotions to the first grade. Georgia's lottery-funded PreK participants scored higher than the national average on the Iowa Test of Basic Skills. Results of a survey of PreK teachers (Pilcher) revealed that these teachers felt that Georgia's lottery-funded PreK participants were better prepared for kindergarten, due in part to the emphasis on social development inherent in the state-mandated curricula. These results were substantiated by a recent report by Georgia State University's Applied Research Center and the Council for School Performance ("Prekindergarten Program," 1997).

Survey research conducted by the Council for School Performance (1996) indicated that parents of Georgia's lottery-funded PreK students perceived PreK to be very beneficial in preparing their children for school and in developing their children's social skills. The majority of parents surveyed indicated that they

were using the educational strategies that had been suggested by Georgia's lottery-funded PreK personnel and consequently, spending more time with their children. Participation in developmental play and enjoyment of the program while in a safe environment were benefits rated most highly by the parents. Ninety-six percent of parents surveyed (Viadero, 1997) reported that they continued to see the positive effects of Georgia's lottery-funded PreK into their child's second year of school. Above average social ratings continued into the first grade; however, the non-participants in Georgia's lottery-funded PreK also rated above average socially. In the Georgia's Lottery-Funded PreK Program informational brochure that has been distributed statewide, higher academic and social ratings by kindergarten teachers and better attendance were reported for Georgia's lottery-funded PreK participants (Office of School Readiness, 1997a).

The attention that Georgia's lottery-funded PreK has received at the local and state levels has not gone unnoticed on the national forum (C. Osborn, Acting Director for the Office of School Readiness, personal communication, July 9, 1997). Georgia's lottery-funded PreK program has been featured in news and informational segments on ABC, CNN, PBS, and NBC. Georgia's lottery-funded PreK program was selected from a field of 2,000 applicants by The Ford Foundation and Harvard University as a semifinalist for the Innovations in American Government Award.

However, Georgia's lottery-funded PreK has not been without its detractors ("Prekindergarten Program," 1997). State Superintendent of Schools, Linda Schrenko, has declined from calling Georgia's lottery-funded PreK program a success. The superintendent has cited Georgia's lottery-funded PreK participants' improvement of less than one percent on kindergarten tests in the last four years as evidence of her lack of support for Georgia's lottery funded PreK program. Governor Miller also expressed his dissatisfaction with Georgia's

lottery-funded PreK program while it was in its first year of implementation ("New Study," 1997). Low income children who participated the first year did not show significant academic gains (Viadero, 1997). The Office of School Readiness has recently become more stringent in the monitoring of Georgia's lottery-funded PreK program at the local levels (Loupe, 1997). Eight centers which had been identified by the Office of School Readiness with substandard programs have lost all funding for the 1997-1998 school year because of the lack of improvement in the quality of their programming for four-year-olds. The emphasis of the Office of School Readiness for the 1997-1998 school year will be on the local agencies' ability to provide high-quality Georgia lottery-funded PreK programs which adhere to the guidelines established by the Office of School Readiness (B. Carithers, Office of School Readiness, personal communication, August, 15, 1997).

Withstanding the criticism of the impact of Georgia's lottery-funded PreK program, the preponderance of research findings on the effectiveness of early childhood education has supported the governor's lottery-funded PreK program (Cambell & Taylor, 1996; Schweinhart, 1994; Schweinhart, Weikart & Lerner, 1986; Zigler, Taussig & Black, 1992). There has also been sufficient evidence that calls for a child-centered curriculum and an added component of parent involvement to enhance the long-lasting benefits of early childhood education (Schweinhart, 1988). Georgia's lottery-funded PreK program developers have included both of these components in the guidelines for operation (Office of School Readiness, 1997b).

Early Childhood Issues

The Kindergarten Curriculum

Regardless of the debates about the lasting effects of early childhood education or the appropriate use of screening results, it has generally been

accepted that there has been an immediate positive effect on school success for those at-risk children who have received early intervention (Anderson, 1994; Quay, 1993; Seawell & Ross, 1992). What attributes have been considered necessary for children to be prepared for kindergarten and consequently increase their chances for success? The kindergarten curriculum has shifted from a play-oriented curriculum to one that is more skill-based. Children entering kindergarten today have been exposed to a large variety of experiences that children in earlier times had not encountered (Egerston, 1987). This concept was supported by Feder-Feitel (1996). Traditionally, kindergarten focused on bridging the gap between home and school, reducing separation anxiety, and teaching young children how to communicate and participate in groups. Because many of today's kindergartners have been exposed to some form of day-care, the current kindergarten population is ready for a different kind of curriculum. The state kindergarten curriculum for Georgia currently includes objectives in a broad range of areas: health and safety, general science, reading, oral and written communication, reference skills, mathematical concepts, social studies, and mathematical problem solving (Dr. Lula Mae Perry, Director of Instruction, personal communication, Jeff Davis County, May 23, 1997).

Teacher directed programs.

As the enrollment in some form of preschool program has increased, the purposes of kindergarten have begun to be viewed differently by the public, educators, and policy makers. Their expectations for all prekindergarten and kindergarten children have become more academic in nature and more outcome oriented (Spodek, 1991). Parental expectations have become higher, more children have been exposed to early childhood programs, and children have become more academically advanced (Wolf & Kessler, 1987). Shepard and

Smith (1988) labeled this phenomenon of increased academic expectations by kindergarten teachers as "the escalation of curriculum or the downward shift of what were next-grade expectations" (p. 135-136). There are several forces that influenced this "escalation of curriculum" (p. 135). First, because kindergarten programs are nearly universal in all of the nation's public schools, first-grade teachers have begun to assume and expect that all children will enter with a common set of skills. Second, parents have begun to put a great deal of pressure on kindergarten teachers to teach their children to read. Third, the trend toward accountability has caused kindergarten teachers to put a greater emphasis on the end-product rather than the individual needs of the child. Last, the standard entrance age in most public kindergartens has been raised in an effort to homogenize the classroom and decrease the developmental gap. Thus, kindergarten teachers have higher expectations of the older students.

However, there has been much criticism of this trend toward higher expectations and greater emphasis on the end-product (Peck, McCaig, & Sapp, 1988; Roberts, 1986; Shepard and Smith, 1988). This current trend has been criticized as placing too much emphasis on teaching a child to read and not placing enough emphasis on teaching a child how to learn. The whole child has not been taught; rather, children have been taught skill fragments in isolated contexts (Roberts, 1986). Peck, McCaig, and Sapp (1988) have concurred with Shepard and Smith when they examined the forces that changed the kindergarten curriculum: public pressure; early childhood educational programs; the push toward greater accountability; and social and political attitudes. They have emphasized that "the ultimate purpose of kindergarten is to promote the child's development and learning" (p. 31). Bauch (1988) reported that 62.9% of kindergarten teachers polled by the Educational Research Service indicated that the focus of their programs was academic readiness and social preparation.

Academic skill achievement was the focus of 29% of the teachers polled. Kindergarten teachers in Ohio's schools reported that major academic emphasis was on work habits, reading readiness, and math readiness (Wolf & Kessler, 1987). Kindergarten programs in the nation's public schools have fallen on a continuum of those that support the whole-child approach to those that are academic in nature.

Whole child approach.

Child advocates and early childhood experts have strongly supported the whole-child approach. Katz (1964,1994b) emphasized the importance of including opportunities for play and spontaneous learning through investigation in a kindergarten student's daily experiences. Kindergartners need to be engaged in activities that help them make sense of their environment and experiences. Of significance has been the fact that entering kindergartners exhibit wide ranges of development in the social, emotional, physical, and cognitive domains. An informal and flexible kindergarten curriculum which provides meaningful learning experiences has become mandatory. Kindergarten objectives that are too formal have led some children to become frustrated with academic requirements and consequently lose their motivation for learning. The kindergarten curriculum that nurtures the whole child has been supported by the Association for Childhood Education International (Hirsh-Burger, 1991). Cohen (1994) reported that the positive effects of emphasizing social and emotional development in kindergarten can be seen in the early elementary years with particular advantage to boys. Children who were exposed to a more academic curriculum had more difficulty with transition through the elementary grades (Cohen). Active learning through experience, activities that allow increased independence, and developmentally appropriate experiences have been presented as appropriate methods. Shepard and Smith (1988) reminded policy

makers and educational administrators that regardless of the entrance age for entering kindergarten, kindergarten teachers continue to deal with a group of children who may have as much as a twelve month age span between them. A span of twelve months in the developmental level of five-year-old children results in a great deal of individual differences within a classroom, necessitating a flexible kindergarten curriculum.

The Four-Year-Old in School

Even as the concern about appropriate curriculum in kindergarten continued to be expressed by policy makers, educators, and parents, public schooling for four-year-old children became a reality. Although educators and child advocates have long recognized the benefits of early education, early childhood education program enrollment has seen a widespread increase due partly in response to societal issues. Working families and single parents need supervised day care. This need, along with the public pressure for increased student performance, has caused the enrollment of children in some form of organized early childhood education programs to quadruple (Salyers, 1991). Berrueta-Clement, Schweinhart, Barnett, Epstein, and Weikart (1984) have supported the expansion of public schooling of four-year-olds. Specific groups that have benefited from enrollment in organized programs at the age of four have been children who lived in poverty, disabled children, and children of women who worked outside the home.

The developmental stages of the four-year-old have provided opportunities for instruction. Both the physical and mental development of four-year-olds has made intervention at this time ideal (Berrueta-Clement, Schweinhart, Barnett, Epstein, & Weikart, 1984). Children at this age have both fine and gross motor maturity that allows them to move less awkwardly than younger children. Additionally, they have developed language capabilities and some personal

independence. Four-year-olds have begun to exhibit curiosity and enthusiasm for learning; they learn through first hand interaction. Length of attention span, ability to concentrate, and ability to remember have increased to a point that makes increased exposure to information and situations beneficial (Office of Readiness, 1997c). Wolf and Kessler (1987) reported the benefits of schooling four-year-olds: (a) scores on school readiness tests showed improvement; (b) retention rates were reduced; (3) children exhibited more motivation; and (d) referrals to special education programs decreased.

David Elkind (1987), who has been a professor of child study, president of the National Association of the Education of Young Children, and a leader in the field of education of young children has also supported organized education of four-year-olds. He advocated for the legislators and policy makers to invest in the nation's resource, its children. Four-year-old children have periods of rapid intellectual growth which require the provision of an environment for learning with an emphasis on interpersonal and social skills. Elkind (1988) criticized those programs for four-year-old children that were structured and did not take into account the developmental levels unique to four-year-olds. Katz (1994a) cautioned that public school education of four-year-olds has placed a burden on teachers to recognize their unique characteristics. These age students have difficulty articulating their thoughts, have had limited opportunities to trust other adults beyond their parents, and are more sensitive to adult emotions than older children.

Futrell (1988) echoed Elkind's views of the trend toward organized education of the four-year-old with the support of preschool instruction based on the developmental age of the child. She called for further financing of educational programs for four-year-old children in order for every four-year-old child to have the opportunity for public schooling. Public schooling for four-year-old children

(Elkind, 1988) provided an educational setting for those children who have not had another option. Education of the four-year-old has become part of public education as evidenced by the increasing numbers of states that legislate early childhood education. The South Carolina Half-Day Child Development Program for 4-year-olds, Exploring Excellence for Young Children: Washington, Maryland Prekindergarten Public School Program, New York State Prekindergarten Program, and Georgia's Lottery-Funded PreK program are examples of state funded programs for four-year-olds (Warger, 1988). Experts in early childhood education who condemn teacher-directed academic programs caution policy makers of the danger of legislation which mandates curriculum for four-year-olds which is a downward extension of elementary education.

Developmentally Appropriate Practice for Four-Year-Olds

Regardless of the factors that have precipitated public schooling for four-year-old children, these children have been served and continue to be served in public school educational settings. Georgia's lottery-funded PreK program has been conceptualized specifically for four-year-old children in an effort to prepare them for kindergarten (Office of School Readiness, 1997a). The creators of Georgia's lottery-funded PreK determined that this goal can best be realized through the provision of developmentally appropriate practice in the areas of language, math concepts, science, art, social skill development, and motor development. Curriculum choices made by local school systems which operate Georgia's lottery-funded PreK programs must be considered developmentally appropriate to meet the Georgia PreK Operating Guidelines (Office of School Readiness, 1997b).

Schweinhart (1988) suggested that direct instruction to four-year-old children and programs which are highly academic have not had long-range effectiveness. In high-quality preschool programs, activities are designed which reflect a child's

individual age and developmental stage (South Carolina Educational Network, 1987). Children learn through discovery and active exploration. Conversely, the curriculum in teacher-directed academic programs is uniform with the same set of expectations for each child. Children maintain a tight schedule and are taught the skills for school success (Office of Educational Research and Improvement, 1990). It has been reported (Schweinhart, Weikart, & Lerner, 1986) that children served in a teacher-directed preschool program for disadvantaged three and four-year-olds reported twice as much delinquency as those in child-initiated programs. Conversely, children served in child-initiated programs participated in more recreational and extracurricular activities. Schweinhart suggested that rather than direct instruction models, "Young children do best when they experience a developmentally appropriate curriculum in which they initiate their own activities with the support and assistance of well-trained and caring adults" (p. 7). Although the current public pressure for educational reform has resulted in some cases of the establishment of standard expectations, these expectations must include objectives which are developmental in nature.

Developmentally appropriate practice has been described as activities which gave consideration for the individual ages and developmental stages of children (South Carolina Educational Network, 1987). All children (with the exclusion of the disabled) have progressed through the same stages of physical, social, emotional, and cognitive development. However, this progression has been rapid and diversified. Developmentally appropriate practice has insured that no stage of development has been accelerated or skipped, and the individual developmental rate of the child has been considered. Age-appropriate activities have been planned for the children.

Inherent in the philosophy of developmentally appropriate practice has been the creation of a classroom environment that facilitated healthy emotional

development (Dunn & Kontos, 1997). A component of developmentally appropriate practice has been that planned lessons have been based in child development theory (Peterson, 1997). Another component has been the coordination of the children's developmental levels with the learning materials. A final component has been that the instructional activities have been presented in meaningful contexts through active participation (NAEYC, 1997b; Newberger, 1997). Katz (1994a) has described developmentally appropriate practice as learning that "occurs in the context of informal interaction and activities rather than through formal group instruction aimed at prespecified learning objectives" (p. 201).

The National Association for the Education of Young Children (NAEYC, 1997b) described developmentally appropriate practice as a practice that does:

- encourage teachers to prepare a variety of challenging learning activities;

- that may include, but go beyond, paper and pencil tasks;
- help children gain skills and knowledge while nurturing their desire to learn;

- recognize that children should demonstrate more than just memorization of facts, they must apply learning in meaningful contexts;

- call for a more flexible time table for children struggling to learn to read; this avoids grade retention;

- maintain clear structure so that students know exactly what is expected of them;

- afford students the opportunity to regulate their own behavior. (p. 3)

The use of a curriculum that can be described as developmentally appropriate has been identified by Schweinhart (1988) as the most important component in the operation of high-quality early childhood education programs.

Such a curriculum has included activities which were child-initiated, open-ended, and age appropriate. Other components important for the operation of high-quality early childhood education programs were low enrollment rates; staff trained in early child development theory; administrative support; staff development on early childhood issues; attention to needs of the whole family; developmentally appropriate assessment procedures; and the encouragement of parents as partners in education.

The use of developmentally appropriate practice has been mandated as one indicator of program compliance by the developers of Georgia's lottery-funded PreK program (Office of School Readiness, 1997a). Georgia's lottery-funded PreK program has been presented to the public as a program for four-year-olds which has offered high-quality preschool education. In addition to the use of developmental appropriate practice in curriculum choices, operators of Georgia's lottery-funded PreK programs are required to provide staff with training in child developmental theory, provide assistance to families with the service of a resource coordinator, maintain a specified child/staff ratio, and include ample opportunities for parents to be involved in the education of their children (Office of School Readiness, 1997b). These components of Georgia's lottery-funded PreK have corresponded with those hallmarks which were identified by Schweinhart (1988) as critical in the operation of high-quality early childhood education programs.

The mission of Georgia's lottery-funded PreK program has been to prepare its participants for kindergarten (Office of School Readiness, 1997a). Pilcher (1994) and Quay (1996) have reported higher ratings in the developmental areas of academic, social, communication, physical, and self-help for those kindergartners who participated in Georgia's lottery-funded PreK programs than non-participants. Georgia's lottery-funded PreK program has been presented to

the public as fulfilling its mission of preparing its participants for kindergarten (Office of School Readiness).

Best Practices in Assessment

Testing Young Children

Kindergarten screening has traditionally been conducted when children made the transition to traditional school experiences (Gridley, Mucha, & Hatfield, 1995). The goal of kindergarten screening has been to obtain "preliminary information about a wide range of behaviors for large groups of children" (p. 213). The purposes of kindergarten screening have included: (a) early identification of children with disabilities; (b) referral for further evaluation; (c) acquisition of health and historical information; (d) development of individual program needs; and (e) involvement of parents in their children's education. The outcome of screening of entering kindergartners allowed teachers and administrators to make informed decisions about educating children and meeting their individual needs in the educational setting.

Traditionally, the assessment of young children was not an issue with early childhood educators. Activities were matched to the individual needs and measurable outcomes were not a priority (Spodek & Saracho, 1997). However, due to several external forces, kindergarten screening has become a fairly common practice in public school systems. Federal legislation has been one factor that influenced this practice. The child-find component of Education for All Handicapped Children Act/Public Law 94-142 (Miller & Sprong, 1986) had a major impact on the assessment practices with young children. The child-find component of Public Law 94-142 (later amended as Individuals with Disabilities Education Act) required that local school systems develop techniques to locate unserved children with disabilities (Division of Exceptional Students, 1994). The provision in Public Law 94-142 which mandated a free and appropriate public

education for preschoolers who were identified with a disability also affected the assessment practices (Paget & Nagel, 1986). Another factor cited has been the increased need for proof of accountability of educational programs and the search for ways to reduce early academic failure (James, 1991). Standardized testing became a component of accountability efforts as administrators and legislators felt the pressure to prove that programs were effective (Peck, McCaig, & Sapp, 1988). As enrollment in early childhood programs increased, policy makers expressed concerns about the expense thereby placing greater emphasis on outcomes (Spodek & Saracho).

Chew and Lang (1990) stated that the evaluation of students can assist educators in developing preventative and proactive approaches to educational programming. This has been supported by Peck, McCaig, and Sapp (1991) who have reported that the implementation of developmentally appropriate programs is contingent upon assessment of children's development and learning. There has been some criticism of the use of screening practices in developing individual programs for children (Meisels, 1987). Specifically, there are those educators that have advocated Gesell's theory of developmental age. These supporters advanced the theory that assessment should be done to determine a child's developmental age, and that children will not be successful in regular kindergarten unless they have the developmental age of a five-year-old. Delaying entrance to kindergarten and developmental programs have been practices that are advocated by supporters of Gesell's theories.

Experts have cautioned educators about the inappropriate uses and negative effects of testing young children (NAEYC, 1988). There is a wide array of standardized tests; each should be used only for the specific purpose for which it was designed. Many of the skills in the early childhood curriculum that experts determined necessary for success are not easily measured. One overriding

concern for many educators who are skeptical of the testing of young children has been that the dependency and emphasis on test scores has precipitated a trend toward curriculum changes in primary grades. These changes in curriculum and teachers' expectations have led to practices that are not developmentally appropriate. It has been a concern of some educators that as a result of this shift in curriculum, more students will be encouraged to delay school entrance and more students will be retained upon entering school.

The National Association for the Education of Young Children (NAEYC, 1997a) has established guidelines for the use of evaluation instruments:

1. Evaluation instruments and procedures should be used only for the purposes for which they were designed.
2. Decisions regarding program entry and/or placement should be based on multiple criteria, including observations by parents and qualified professionals, never a single test score.
3. Developmental assessment of children's progress and achievement should be used to plan curriculum, identify children with special needs, communicate with parents, and evaluate the program effectiveness.
4. Caution must be used so that placement into programs for "at-risk" or needy children does not result in stigmatizing labels that segregate students into tracks.
5. Evaluation of the programs created by the legislation should be assessed through multiple indicators. Assessment strategies should be developmentally appropriate and congruent with the goals of the program.

(p. 10)

Meisels (1987) advised those involved in the education of young children that the primary purpose of the testing of young children should be to improve the educational services to children. Children who need individual attention can be

identified as well as those children who need a modified program. The screening process should never be used to exclude children from or deny them an education. Concerns regarding inadequate test validity and improper standardization procedures have also been raised (Kelly & Surbeck, 1991; Paget & Nagel, 1986). Between 1960 and 1980 (Kelly & Surbeck) more than 200 assessment instruments were constructed and published. The Center for the Study of Evaluation in conjunction with UCLA Graduate School of Education published an evaluation guide which provided reviews of kindergarten and preschool tests. General ratings were either poor or fair with no tests receiving an overall rating of good. In order for preschool assessment instruments to be useful in program planning and evaluation, the "dynamic nature of the young child" (p. 13) must be considered. Reliability and validity of assessment instruments are impacted by the uniqueness of the young child. These unique characteristics have included environmental and situational variables, rapid developmental changes, and behavioral variability (Paget & Nagel).

Molnar and Reighard (1984) have suggested that by determining a child's developmental profile through the process of kindergarten screening, a framework for the implementation of intervention strategies can be developed. The authors added that the gathering of this information in the spring (prior to entrance in kindergarten) has allowed educators to make optimal use of this information in program planning. The administration of screening instruments in the spring has achieved several purposes: (a) provided remediation activities used during the summer; (b) allowed adequate time for the analysis of data; (c) provided time for the development of individualized educational programs; (d) nurtured a positive relationship between school and parents; and (e) allowed for proper referral and placement of children into special education programs.

Developmental Indicators for the Assessment of Learning-Revised

The Developmental Indicators for the Assessment of Learning-Revised (DIAL-R) was designed as an individually administered screening instrument (Mardell-Czudnowski & Goldenberg, 1990). It includes those features which have been identified as necessary for a preschool screening instrument to be adequate and comprehensive. Those features include: (a) standardized sample and norms development; (b) adequate reliability; (c) ability to differentiate those children who are at risk; (d) standardization on an age range of 2-0 to 5-11; (e) brief, individual administration; (f) objective scoring procedures; (g) culturally sensitive; (h) age-appropriate tasks; and (i) process-oriented. The DIAL-R has been specifically designed and recommended for use in a comprehensive screening process which identified those children who may be in need of further assessment or curricular modification.

Several studies evaluating the predictive validity of the DIAL-R have been conducted. Smith (1986) found that the DIAL-R appeared to be a statistically significant predictor of test performance on the Metropolitan Readiness Test and high teacher ratings. Although Jacob, Snider, and Wilson (1988) cautioned that the DIAL-R has limited ability for predicting preparedness beyond kindergarten, the authors did find that the DIAL-R total and area scores were correlated at the .01 level of significance with the Clymer-Barrett Readiness Test and Stanford Reading Test. Additionally, the authors reported that screening with the DIAL-R was a very satisfactory method in identifying children with special needs. In a third study, researchers from the University of South Florida Medical School found that the DIAL-R produced a highly accurate ability to predict kindergarten performance (Mardell-Czudnowski & Goldenberg, 1990).

Miller and Sprong (1986) have identified both psychometric criteria and qualitative criteria which should be used in the selection of preschool screening

instruments. The psychometric criteria identified are: (a) description of the normative sample; (b) sample size is adequate; (c) evidence of item analysis; (d) concurrent validity, predictive validity, test-retest reliability, interexaminer reliability, variability and measures of central tendency have been reported; (e) description of test procedures; and (f) description of tester qualifications has been included. The DIAL-R met most of these criteria fully. Interexaminer reliability was not reported. The requirements for evidence of item analysis and test-retest reliability were fulfilled in part. The psychometric criteria as outlined by Miller and Sprong which were met in an analysis of the DIAL-R properties included: a description of the normative sample, an adequate sample size; reports of concurrent and predictive validity, variability, and measures of central tendency; and a description of test procedures. The qualitative considerations of cost effectiveness, scoring system procedures, and establishment of theoretical framework were also met. They emphasized that both the qualitative and psychometric components should be examined when selecting screening instruments. Instruments that have been constructed reflecting rigorous standardization processes and those that have facilitated the elicitation of optimal results should be selected.

Gridley, Mucha, and Hatfield (1995) suggested that careful consideration should be given to the selection of developmentally appropriate tests for screening purposes. Additionally, the developmental nature of young children prohibits narrow interpretation of test results. These authors isolated criteria useful in selecting appropriate instruments for screening young children: (a) evidence of psychometric properties; (b) tasks and procedures are brief; (c) information gained from a variety of sources; (d) profile of outcomes is available; (e) accepted by primary users; and (f) the focus is developmental rather than

pre-academic. The authors determined that the DIAL-R met all six of these criteria.

Miller and Sprong (1986) and Gridley, Mucha, and Hatfield (1995) rated the DIAL-R in a very positive light as to its ability to meet criteria for appropriate screening instruments of preparedness for and success in kindergarten. The DIAL-R has been designed to identify children who may be in need of additional assessment (Mardell-Czudnowski & Goldenberg, 1984). Through the examination of acquired skills in the language, concepts, and motor areas, children who are at-risk, developmentally on target, or above average in preparedness for kindergarten can be identified.

Experts have issued cautions when embarking upon a screening program for young children (Kelly & Surbeck, 1991; Meisles, 1987; NAEYC, 1997a; NAEYC, 1988; Paget & Nagel, 1986). The importance of using screening instruments for the designed purposes cannot be emphasized enough. These authors have reminded those involved with screening practices of young children that the results must be interpreted liberally. The developmental nature of young children has made the reliability and validity of such instruments unstable. Regardless of these cautions, the practice of kindergarten screening has continued in public schools. Reviews of standardized screening instruments for young children by Gridley, Mucha, and Hatfield (1995) and Miller and Sprong (1986) have indicated that the DIAL-R fulfills many of the criteria for developmentally appropriate screening instruments. In fact, the DIAL-R met many of the criteria when other instruments did not. The DIAL-R was designed to identify young children who may need more intensive assessment because of suspected learning problems (Conoley & Impara, 1995). Children who are expected to progress normally and those that may be advanced are also identified through screening with the DIAL-R. The DIAL-R has been

“constructed to identify children with potential developmental problems and children who appear to be developing in an advanced manner” (p. 283). Conoley and Impara (1995) reported that the DIAL-R has predicted kindergarten performance with high accuracy. Because the DIAL-R has been reported to successfully predict kindergarten performance, it can be considered a valid measure of kindergarten preparedness. Through the analysis of a child’s performance on the DIAL-R, preparedness for kindergarten can be estimated.

Preparedness for Kindergarten

The question of preparedness has been a historic debate. Parents, policy makers, and educators have continued to ask the question: What attributes have been considered necessary for children to be prepared in kindergarten and consequently increase their chances for success? Wolf and Kessler (1987) reported that age has been commonly associated with preparedness. All 50 states currently have a minimum age for entrance into kindergarten. Although there has been a recent trend toward raising the cut-off age in an effort to reduce school failure, there has been no evidence to support that this is effective. Preparedness for kindergarten has generally been determined by an arbitrary age cut-off and developmental measures (Newman, 1991). Yet, the variety of learning styles and racial and cultural diversity of today’s young children must be considered in this debate. Normal development has encompassed a wide range of competencies and diversity in each child. Broad expectations for preparedness have taken into consideration the complexity and diversity of four-year-old children (NAEYC, 1996). There has not been one ideal age to start school identified (Wolf & Kessler).

Preparedness (Wendt, 1979) has involved the development and interaction of a child’s language skills, perceptual skills, cognitive maturation, and neurological maturation. Additionally, expectations of the school must be

considered when assessing a child's preparedness. These expectations have been rooted, in part, in the culture of the community. Ramey and Ramey (1994) proposed that when school expectations have been tailored to the individual child's educational and cultural needs, his/her chances for success have increased. However, there have been some indicators of preparedness that children have exhibited: (a) an enjoyment of school; (b) evidence of cognitive growth; and (c) parents who have been actively involved in their education. External conditions that can enhance preparedness have been identified: (a) parents and community have been perceived as partners in education; (b) classrooms which used developmentally appropriate practice; and (c) cultural diversity has been celebrated.

At the national level, attempts have been made to address this issue. As a result of the educational summit organized by President Bush, six goals were developed for the nation's schools. The first goal was aimed at this issue of preparedness as it articulated the need for all children to enter school prepared to learn (U.S. Department of Education, 1997). In a response to the action, the Carnegie Foundation for the Advancement of Teachers (Boyer, 1991) surveyed more than 7,000 kindergarten teachers. The kindergarten teachers were asked to rate the preparedness and readiness of the children they taught. The results of the survey revealed that 35% of the nation's children were not ready to learn, that the situation was worsening, and that language proficiency was the area that exhibited the greatest need for improvement.

Children who have been prepared for kindergarten (Nurss, 1987) functioned cooperatively in a group, attended to a task, demonstrated gross and fine motor skills, were interested in stories, and understood the relationship between oral and written language. A survey has been conducted by The National Center for Education Statistics of kindergarten teachers (Rodekohr, 1995) in an effort to

rate the skills considered important for kindergarten preparedness. The kindergarten teachers identified three characteristics that are considered important for any child in preparation for kindergarten: an understanding and use of language exemplified by the ability to express oneself; physical and mental health; and the willingness to approach new learning activities. Results of the survey showed that counting from one to twenty and recognition of letters were of least importance to these kindergarten teachers when identifying school preparedness.

The National Education Goals panel (NAEYC, 1995) has identified similar factors that contribute to success in school: (a) physical well-being; (b) motor development; (c) emotional health; (d) social competence; (e) language development; (f) the child's approaches to learning; and (g) the child's understanding of his/her world. Specifically, young children should exhibit confidence and independence in order to gain new knowledge. They should be able to interact appropriately with their peers. Language should be used for communication and enjoyment as young children demonstrate a curiosity about learning. Experts in early childhood education have indicated that a willingness and eagerness to learn have been the best informal indicators of kindergarten preparedness (B. Carithers, Office of School Readiness, personal communication, August, 28, 1997). Children who have been prepared for kindergarten were curious, active, and eager to learn (NAEYC, 1996). Salyers (1991) suggested that the possession of two vital characteristics can assist young children in success in organized education: "first, a sense of pleasure in learning; and second, a growing self-confidence in their ability to accomplish a more challenging task" (p. 145).

In additional survey research, the results of kindergarten principals' perceptions of preparedness for kindergarten (Day, 1988) indicated that

children's social, emotional, and language development were indicators of kindergarten program success. Physical development, positive work habits, and self-discipline were considered to be attributes which, if possessed by entering kindergartners, would prepare them for success in kindergarten. Ironically, artistic expression and academic achievement were the lowest ranking priorities.

Social readiness and an understanding of language have repeatedly been identified as important attributes for preparedness for kindergarten (Office of Educational Research and Improvement, 1991). Socially, children entering kindergarten need to have had experience accepting authority from adults other than their parents; exposure to peer groups in positive interactions; and acquired the ability to take-turns, make compromises, and approach children who are unfamiliar to them. In respect to language development, children who can understand and use language to express themselves and relate their ideas will likely be more confident and comfortable in their interactions with peers and adults. Wendt (1979) reported that kindergarten teachers noted that children who were socially immature had difficulty adjusting to kindergarten. This lack of adjustment in kindergarten was particularly difficult for boys who had birthdays just past the age cut-off.

Boyer (1991) found that kindergarten teachers valued education of the preschool child. Children who had some form of high-quality early childhood education programs exhibited a broader knowledge base, demonstrated better motor capabilities, and had a better understanding of language. Kindergarten teachers have indicated that these skills have improved a child's preparedness for kindergarten and increased his/her chances for success. Veteran kindergarten teachers have echoed this school of thought. Skills needed for success in kindergarten include: (a) the ability to communicate; (b) the ability to follow directions; (c) the development of listening and attending skills; (d)

interpersonal skills which allow them to interact appropriately with each other; and (e) the capacity to share. Acquisition of pre-academic skills has not been an indication of preparedness for kindergarten (S. Crump, personal communication, May 30, 1997).

The American Association of School Administrators (1992) has reiterated this current description of school preparedness. In the past, children were considered to be prepared for kindergarten if they had acquired certain skills. Current understanding of school preparedness has encompassed a number of factors: a child's health, his/her ability to speak and listen, the development of self-esteem, and the ability to cooperate with others. Coping skills and self-confidence have also been identified as important attributes for school preparedness.

Summary

The intent of this study was to investigate the success of Georgia's lottery-funded PreK program in preparing its participants for kindergarten. Did those students who participated in Georgia's lottery-funded PreK program in rural south Georgia enter kindergarten with differences in preparedness from students who did not participate? Participants in alternate types of prekindergarten are those students who participated in Head Start, no prekindergarten programs, or the category of other prekindergarten programs (private, church, or day-care). Preliminary examination of Georgia's lottery-funded PreK program has been conducted by Georgia State University's Applied Research Center and the Council for School Performance and investigated attendance levels, parental perceptions, retention rates, and ITBS scores. Much of the research on the success of Georgia's lottery funded PreK was conducted with those children who were enrolled in Georgia's lottery-funded PreK program during the first two years

of implementation. The entire population during the first two years of operation were identified as at-risk.

Creators of Georgia's lottery-funded PreK program have announced its mission to the public as providing learning experiences to four-year-olds which will prepare them for kindergarten. The Georgia lottery-funded PreK program has been conceptualized in an effort to provide high-quality early childhood education programs to young children (Office of School Readiness, 1997a). Georgia's lottery-funded PreK program has been designed to emulate the hallmarks of high-quality early childhood education programs (Office of School Readiness, 1996; 1997a). These hallmarks have included: developmentally appropriate practice; training for staff in early childhood education theory; low adult/child ratio; and parental involvement in their child's education (Schweinhart, 1988).

The current body of research on Georgia's lottery-funded PreK program was limited to at-risk students. Georgia's lottery-funded PreK has been expanded to include any of Georgia's four-year-olds. The variable of kindergarten preparedness of the lottery-funded PreK population has not been directly examined. Information as to the initial impact that Georgia's lottery funded PreK program has had on entering kindergartners can contribute to the operation and future development of Georgia's lottery-funded PreK program. Nationally, this information can be used to develop policies which mandate early childhood education.

Chapter III

METHODOLOGY

Introduction

Funding issues, appropriate curriculum, and the educational impact of early childhood education on later school success have become major issues for legislators and educators (Neugebauer, 1991). With a national focus on school reform calling for more accountability and increased achievement scores (DeRoche, 1997) and an increased awareness of the importance of establishing a good foundation for entering school, there has been a growing interest in programs for four-year-old children (Adams & Sandfort, 1994). For early childhood programs to become a matter of state and federal policy, policy makers must be convinced of the importance of such programs (Goffin & Lombardi, 1988). Warfield (1994) suggested that it was critical that policy makers and directors of early childhood education programs analyze the efficacy of the various early childhood education approaches in order to determine how to effectively distribute limited resources. During Governor Miller's first term (Sherman, 1991), his innovative plan, Georgia Lottery for Education, became a reality. One component of this plan was the funding of prekindergarten programs with the proceeds from the Georgia lottery. An examination of the effectiveness of Georgia's lottery-funded PreK program was important to those directly involved in the making of educational policy and crucial for the future of Georgia's lottery-funded PreK program participants. With this need identified, the following question was posited: Have Georgia's lottery-funded PreK students in rural Georgia entered kindergarten with differences in preparedness from students who did not participate in this program? Participation in alternate

types of prekindergarten programs included: Head Start, the category of other, or no participation.

Generalizability

Generalizing results from the population from which the sample has been drawn, kindergartners in twelve rural public school systems in southern Georgia, to larger groups, all public school kindergartners in rural southern Georgia and all public school kindergartners in rural Georgia, requires that the populations must be similar in critical aspects (Borg & Gall, 1989). Demographic data indicating the race, gender, and percent of students involved in the free and reduced lunch program were obtained for all school systems involved in this study and have been presented in Table 1.

Demographic data indicating the race, gender, and percent of students involved in the free and reduced lunch program for school systems in southern Georgia which are not represented in the study are presented in Table 2. These systems are: Jeff Davis; Mitchell; Pierce; Pulaski; Miller; Lanier; Taylor; Crisp; Clay; Terrell; Irwin; and Vidalia City. The demographic data for school systems in southern Georgia which are represented in this study are very similar to the demographic data of school systems in rural southern Georgia which are not represented in this study. Therefore, generalizing the results of this study to all of rural southern Georgia is possible.

Although the sample of students involved in this study was selected from school systems in southern Georgia, school systems with very similar demographic data were also found scattered throughout northern Georgia. These systems are: Johnson; Lincoln; Taliaferro; Wilkes; Jasper; Heard; Hancock; Elbert; Banks; Oglethorpe; Crawford; and Lamar. Demographic information for these school systems is presented in Table 3.

Table 1

Demographic Information for Systems Included in this Study

System	<u>Race%</u>			<u>Gender%</u>		<u>Lunch%</u>
	White	Black	Hispanic	Male	Female	Free/Reduce
Bacon	73.0	24.8	1.1	52.2	47.8	48.0
Baker	26.1	72.7	0.9	47.3	52.7	91.7
Brantley	94.1	05.1	0.4	52.6	47.4	50.8
Candler	54.4	40.0	5.3	53.6	46.4	59.1
Grady	57.8	40.0	2.0	51.8	48.4	55.3
Long	63.1	30.7	4.5	51.3	48.7	64.2
McIntosh	44.2	55.1	0.5	50.1	49.9	65.2
Pelham City	41.7	55.4	2.2	50.9	49.1	67.7
Stewart	5.5	94.4	0.0	54.0	46.0	91.4
Talbot	5.1	94.7	0.0	53.1	46.9	89.5
Treutlen	57.8	41.9	0.1	49.8	50.2	66.3
Wilcox	55.2	44.7	0.1	51.3	48.7	43.3
Average	56.5	41.5	1.6	51.8	48.2	61.5

Note. Free/Reduce indicates the percentage of students in the system who are on the free/reduced lunch program. Eligibility for this program is determined through family income.

Table 2

Demographic Information for School Systems in Southern Georgia not
Included in This Study

System	Race%			Gender%		Lunch%
	White	Black	Hispanic	Male	Female	Free/Reduce
Jeff Davis	78.3	18.5	2.7	51.6	48.4	47.0
Mitchell	26.3	72.8	.7	52.1	47.9	73.6
Pierce	84.4	14.4	1.1	51.7	48.3	53.1
Pulaski	51.4	46.3	1.5	51.3	48.7	64.5
Miller	53.1	43.4	.5	49.8	50.2	53.3
Lanier	66.3	32.5	.6	52.7	47.3	65.6
Taylor	45.0	54.2	.7	51.0	49.0	66.3
Crisp	40.7	58.5	.2	49.7	50.3	66.8
Clay	9.5	90.5	.0	49.1	50.9	97.0
Terrell	4.4	95.5	.1	49.3	59.7	76.9
Irwin	58.2	40.8	.6	51.0	49.0	58.3
Vidalia City	52.2	45.9	1.0	48.6	51.4	49.4
Average	50.0	48.7	1.0	49.3	50.7	62.0

Note. Free/Reduce indicates the percentage of students in the system who are on the free/reduced lunch program. Eligibility for this program is determined through family income.

Table 3

Demographic Information for School Systems in Northern Georgia

System	<u>Race%</u>			<u>Gender%</u>		<u>Lunch%</u>
	White	Black	Hispanic	Male	Female	Free/Reduce
Banks	94.6	4.2	.5	52.8	47.2	49.9
Crawford	65.9	33.5	.5	52.1	47.9	52.7
Elbert	57.7	41.3	.5	50.9	49.1	54.2
Hancock	.8	99.2	.1	49.0	51.0	80.5
Heard	81.9	17.4	.2	50.6	49.4	51.4
Jasper	54.0	44.2	.8	51.1	48.9	65.1
Johnson	46.3	53.3	.04	51.0	49.0	71.1
Lamar	57.5	42.0	.3	51.5	48.5	54.9
Lincoln	53.8	46.0	.1	51.1	48.9	54.0
Oglethorpe	68.1	31.1	.6	52.7	47.3	44.9
Taliaferro	5.6	90.1	1.9	55.9	44.1	94.4
Wilkes	41.6	57.3	.4	51.0	49.0	61.5
Average	56.7	42.5	.4	51.3	48.7	57.7

Note. Free/Reduce indicates the percentage of students in the system who are on the free/reduced lunch program. Eligibility for this program is determined through family income.

An inspection of Tables 1, 2, and 3 reveals that the demographic data (race, gender, and free/reduced lunch participation) presented in each of these tables are very similar in distribution. Therefore, since the population from which the sample was drawn is similar in demographic characteristics to larger populations, all students in rural southern Georgia and all students in rural Georgia, results of this study should be generalizable to the entire rural Georgia kindergarten population.

Subjects

The subjects for this study were those first year kindergartners enrolled in rural public school systems in southern Georgia. Two criteria were established for selection in this study: (1) these students participated in kindergarten screening; and (2) these students were administered the Developmental Indicators for the Assessment of Learning-Revised (DIAL-R) as part of this kindergarten screening. Telephone interviews and other contacts were made by this researcher between July, 1997 and August, 1997 to determine which public school systems in southern Georgia met the criteria for this study. Because they did not meet the definition of rural, several school systems were excluded from this study: Dougherty, Muscogee, Liberty, Tift, Bulloch, Chatham, Sumter, and Camden. With the exclusion of these school systems, every superintendent or curriculum director in each school system in southern Georgia was contacted. Through these contacts, it was determined which school systems conducted kindergarten screening and used the DIAL-R during this screening.

Geographic areas in southern Georgia were defined by the boundaries of the Chattahoochee/Flint Regional Educational Services Agency (RESA), Southwest Georgia RESA, Coastal Plains RESA, Heart of Georgia RESA, First District RESA, and Okefenokee RESA. School systems in each of these RESA districts which met the selection criteria are presented in Table 4.

Table 4

School Systems Participating in the Study Organized by RESA Districts

RESA District	School System
Chattahoochee/Flint	Stewart County
	Talbot County
Southwest Georgia	Baker County
	Pelham City
	Grady County
Heart of Georgia	Wilcox County
	Treutlen County
First District	Candler County
	Long County
	McIntosh County
Okefenokee	Bacon County
	Brantley County

Through contacts with the system curriculum directors, it was revealed that no school systems in the Coastal Plains RESA district met these criteria. With the exception of Coastal Plains RESA district, five of the six RESA districts in southern Georgia included school systems which met the criteria.

Consequently, the subjects for this study included kindergartners in twelve rural

public school systems which were geographically located across southern Georgia. The counties which were included in this study have been represented in Figure I.

Within the twelve school systems which met the selection criteria for this study, there were 94 kindergarten classrooms. The total estimated kindergarten enrollment for these 94 classrooms was approximately 1,660 kindergarten students (approximate maximum class size = 17 students). Retainees were not included in this study.

An examination of the 1995-1996 Georgia Public Education Report Card (Georgia Department of Education 1995-1996) provided the demographic information on each school system. This information is provided in Table 1. Racial distribution for schools systems varied from counties that were 94% white (Brantley) to counties that were 94% non-white (Talbot). The Hispanic population had the highest representation in Candler County. Stewart and Talbot Counties reported no Hispanic population. Gender was fairly evenly distributed with males being marginally more represented. Students participating in the free and reduced lunch program had the highest representation in Baker County with 91.7% participation and the lowest participation in Wilcox County with 43.3% participation.

The intent of this study was to investigate the differences in preparedness of Georgia's lottery-funded PreK participants in rural Georgia from students who did not participate in this program. Participation in alternate types of prekindergarten programs included: Head Start, the category of other, and no participation. Studies conducted by Cambell and Taylor (1996); Marcon (1994); Slavin, Madden, Dolan, and Wasik (1995); and Warger (1988) supported the impact of preschool intervention on later school success. Preliminary findings of Quay (1996) supported the positive impact of Georgia's lottery-funded PreK on

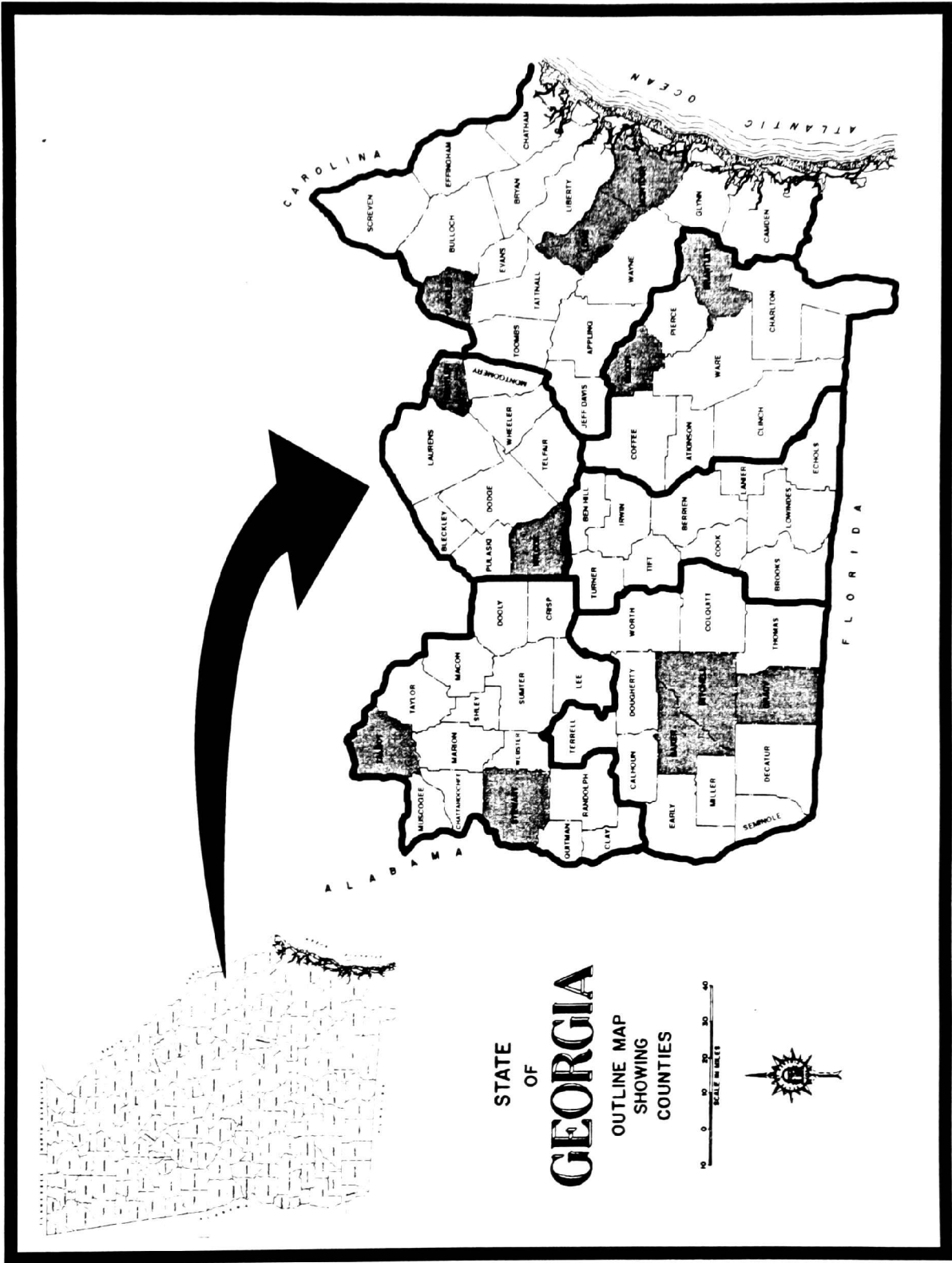


Figure 1: Representation of counties which were included in this study with RESA districts outlined. Counties included in this study are shaded.

participants' attendance and retention rates. Schweinhart (1988,1994) provided findings that supported the positive impact of early intervention on black children. Fuerst and Fuerst (1993) showed that a significant difference was found in achievement of black females who were exposed to early childhood programs. However, Pilcher (1994) found no statistically significant difference on developmental rating scores between African Americans, Caucasians, and Hispanics or between males and females. In an effort to investigate the differences in preparedness of Georgia's lottery-funded PreK participants and participants in alternate types of prekindergarten programs, the data requested on each subject was limited to: (1) type of prekindergarten program (Georgia's lottery-funded PreK, the category of other, Head Start, none); (2) total score on the DIAL-R for each student; (3) race; and (4) gender.

Developmental Indicators for the Assessment of Learning-Revised

DIAL-R

The DIAL-R (Mardell-Czudnowski & Goldenberg, 1990) was designed to identify children during a screening process who may need additional diagnostic assessment. Evaluation of the conceptual, motor, and language domains has been included. The child's social/emotional behavior can be observed during administration. Activity level, distractibility, cooperation, ability to separate from an adult, and disruptiveness are behavioral characteristics of the children which can be observed. The DIAL-R is an untimed, norm-referenced, standardized instrument which is appropriate for use with children between the ages of 2-0 and 5-11. The DIAL-R has been revised from the original publication of the DIAL in 1983 and was restandardized in 1990.

Six basic applications have been identified for use (Mardell-Czudnowski & Goldenberg, 1990):

- (1) the identification of children with potential developmental problems

- who are in need of further assessment or special education;
- (2) the identification of potentially advanced children who are in need of further assessment or special education;
- (3) the identification of children who may be "at risk" for environmental reasons and who may profit from programs designed to prevent school failure;
- (4) a curriculum assist for identifying a child's strengths and weaknesses in order to plan instruction appropriate for individual needs;
- (5) psychometric training, particularly in courses for undergraduate students or paraprofessionals; and
- (6) research on preschool children. (p. 5)

The DIAL-R (Mardell-Czudnowski & Goldenberg, 1990) has been standardized on a national sample of children ages 2-0 to 5-11. This sample included 2,447 children who were stratified on several variables: chronological age, sex, geographic origin, community size, and race. This stratification model reflected the United States Census demographic information.

From the administration of the DIAL-R (Mardell-Czudnowski, 1990), three scaled scores can be obtained: one each in the areas of motor (gross and fine), concepts, and language. A DIAL-R total is then calculated. Interpretation tables have been provided which allow the total DIAL-R score, or the individual area scores, to be categorized into "potential problems, OK, or potential advanced" (p. 122).

Reliability.

Efficacy of an instrument in making educational decisions is influenced by its validity and reliability. Applied to educational measurements, reliability has typically been defined as the level of internal consistency or stability of the

measuring device over time (Borg & Gall, 1989). As Krathwohl (1993) noted, it is the consistency with which a test measures whatever it measures that is important.

Indications of the internal consistency of the DIAL-R were presented through Cronbach's coefficient alpha for the DIAL-R total and each area based on the data obtained in the 1990 analysis of the standardization data. Salvia and Ysseldyke (1988) indicated that internal consistency measures on screening tests should be at the .80 level or above. The DIAL-R Total Scores for the census sample met or exceeded this criteria at all age levels with coefficient alphas ranging from .80 to .92 across the age levels. Partly because area scores were based on fewer items, lower internal consistency measures were noted on area scores. Coefficient alphas ranged from .63 to .78 across the age levels for the motor area; from .54 to .81 across the age levels for the concepts area; and from .45 to .87 across the age levels for the language area.

Stability reliability was established through test-retest procedures where a sample of students stratified by age and sex were retested after a mean of 35 days. Salvia and Ysseldyke (1988) indicated that reliability levels of .80 or greater were needed for screening tests. The DIAL-R Total met this criteria with a .87 stability reliability coefficient. The DIAL-R area score of Concepts also met this criteria with a stability reliability coefficient of .90. Stability reliability coefficients for the Motor area (.76) and the Language area (.77) were slightly below the criteria suggested by Salvia and Ysseldyke.

Validity.

Validity is the degree to which an instrument measures what it purports to measure (Borg & Gall, 1989). As McMillan and Schumacher (1993) noted, the validity of an instrument rests upon the inferences that are drawn from it. This has suggested that content validity and predictive validity are critical

components of an instrument, such as the DIAL-R, that is used for screening purposes.

Content validity is the extent to which the content of a test has represented the domain of content (McMillan & Schumacher, 1993). Borg and Gall (1989) indicated that content validity is important in achievement testing and tests of skills and proficiency. They indicated that it is appraised by an objective comparison of test items with curriculum content. Content validity for the DIAL-R was established through a process of gathering information from child development experts who reviewed behaviors needed for early school success (Mardell-Czudnowski & Goldenberg, 1990). Those competencies which were necessary for success in regular educational settings were identified by nursery school, kindergarten, and first-grade educators. A review of the DIAL-R items by veteran kindergarten teachers and state Department of Education early childhood consultants confirmed that the DIAL-R included the same kinds of activities expected in the typical kindergarten classroom (Appendix A). The test is closely aligned with instructional practice in public school kindergartens.

Predictive validity is the degree to which predictions made by an instrument are confirmed by behavior of the subjects at a later date (Borg & Gall, 1989). Predictive validity is important in making forecasts about the subjects' predicted performance in some program of interest. It is established by producing a correlation coefficient to numerically represent the adequacy with which the test score will predict the later behavior (McMillan & Schumacher, 1993).

Predictive validity of the DIAL-R was reinforced by reporting data that indicated a significant correlation between the DIAL-R Total Score with: the Metropolitan Readiness Test ($r=.80$; $p<.01$); classroom teacher ratings ($r=.76$; $p<.01$); and with the Clymer-Barrett Readiness Test ($r=.64$; $p<.01$) (Mardell-

Czudnowski & Goldenberg, 1990). Validity data suggested that the DIAL-R was adequate for the purpose for which it was designed (Conoley & Impara, 1995).

Research Design

This study was defined as causal-comparative research as it attempted to determine the consequences of differences that already existed among groups (Wallen & Fraenkel, 1991). The independent variable (type of preschool experience) cannot be manipulated allowing only the effects of this treatment to be investigated. Relationships can be established but causation cannot. According to Wallen and Fraenkel, this study met the criteria for Type 3 causal-comparative research which is described as an "exploration of the consequences of an intervention" (p. 195).

Procedure

Preliminary contact was made to each public school system in Chattahoochee/Flint RESA, Southwest Georgia RESA, Coastal Plains RESA, Heart of Georgia RESA, First District RESA, and Okefenokee RESA areas. It was determined which public school systems in these areas conducted kindergarten screening and used the DIAL-R as a screening instrument. This contact with public school systems revealed that there were approximately 1,600 kindergarten students in 94 classrooms within the Chattahoochee/Flint RESA district, Southwest Georgia RESA district, Heart of Georgia RESA District, First District RESA district, and Okefenokee RESA districts who were administered the DIAL-R during kindergarten screening. The NEA Research Bulletin (Educational Press Association of America, 1960) indicated that when determining sample size needed to ensure representativeness of the population, the smallest subgroups for which data are desired must be considered. Since race and gender defined subgroups which described the population, demographic data (Georgia Department of Education, 1995-1996) were

analyzed to determine the sizes of the various subgroups. Then, by applying Krejcie & Morgan's (1970) sample size criteria to each of these subpopulations, a total sample of 755 subjects was needed. In an effort to guarantee a more accurate representation of the subgroups, an attempt was made to secure data on the entire estimated population of 1,600 kindergartners.

Once these systems had been identified, initial contact was made to each of the twelve school system superintendents in October, 1997. Initial contact was made through a letter explaining the study and requesting permission to contact those kindergarten teachers who were employed in the system (Appendix B). A follow-up telephone call was made to each of the twelve system superintendents in order to answer any questions. The names and addresses of the kindergarten teachers in each of the twelve systems were obtained at this time.

After permission was obtained from the superintendents, a cover letter explaining the study and requesting participation was mailed in November, 1997 to each of the 94 kindergarten teachers who had been selected for this study (Appendix C). Included with this letter was a data collection sheet (Appendix D). These data sheets had been previously reviewed by a panel of kindergarten and prekindergarten teachers to determine their ease of completion (Appendix A). Data requested on each data collection sheet were limited to: (1) type of prekindergarten program (Georgia's lottery-funded PreK, other, Head Start, none); (2) total score of each kindergarten student on the DIAL-R; (3) race (white, black, other); and (4) gender. A self-addressed stamped return envelope was provided. In January, 1998, follow-up telephone calls were made to central level administrators in two school systems which had very low return rates. The return rate in these two school systems was improved to 100%. A second letter (Appendix E) was mailed to 26 kindergarten teachers in other school systems who had not replied. A letter (Appendix F) was mailed at the end of January,

1998 to those systems which had a high rate of participation thanking them for their participation. A summary of results (Appendix G) will be mailed to all participants at the conclusion of this study.

Analysis of Data

The following question has been posited: Have Georgia's lottery-funded PreK participants in rural Georgia entered kindergarten with differences in preparedness than students who did not participate? Participants in alternate programs are children who participated in Head Start, the category of other prekindergarten programs, or no prekindergarten programs.

The statistical method selected in this study for the purposes of examining the data was a one-way Analysis of Variance (ANOVA). The one-way ANOVA allowed numerous levels of an independent variable to be studied concurrently and to test several hypotheses (Glass & Hopkins, 1996). The mean scores of the DIAL-R for each group were compared through the application of the one-way ANOVA to determine if participation in the various prekindergarten programs had any significant effect on the DIAL-R scores of the participants. The application of a one-way ANOVA determined if a statistically significant difference ($p < .05$) existed between the mean scores on the DIAL-R of the kindergarten students with respect to varying preschool experiences. Further analyses through the Scheffe' Method of Multiple Comparisons procedure determined if there were any significant differences between specific types of prekindergarten programs.

Chapter IV

REPORT OF DATA AND DATA ANALYSIS

Introduction

Funding issues, appropriate curriculum, and the educational impact of early childhood education on later school success have become major issues for legislators and educators (Neugebauer, 1991). With a national focus on school reform calling for more accountability and increased achievement scores (DeRoche, 1997) and an increased awareness of the importance of establishing a good foundation for entering school, there has been a growing interest in programs for four-year-old children (Adams & Sandfort, 1994). For early childhood programs to become a matter of state and federal policy, policy makers must be convinced of the importance of such programs (Goffin & Lombardi, 1988). Warfield (1994) suggested that it was critical that policy makers and directors of early childhood education programs analyze the efficacy of the various early childhood education approaches in order to determine how to effectively distribute limited resources. During Governor Miller's first term (Sherman, 1991), his innovative plan, Georgia Lottery for Education, became a reality. One component of this plan was the funding of prekindergarten programs with the proceeds from the Georgia lottery. An examination of the effectiveness of Georgia's lottery-funded PreK program was important to those directly involved in the making of educational policy and crucial for the future of Georgia's lottery-funded PreK program participants. With this need identified, the following question was posited: Have Georgia's lottery-funded PreK students in rural Georgia entered kindergarten with differences in preparedness than students who did not participate in Georgia's lottery-funded PreK program? Participation in alternate types of programs include: Head Start, other, or none.

Return Rate of Data Collection Sheets

Data were collected from every rural school system in southern Georgia which met two criteria: (1) the school systems conducted kindergarten screening prior to the students' entry into kindergarten; and (2) the DIAL-R was used as one of the screening instruments. Previous contacts with school superintendents and curriculum directors had revealed that twelve counties in southern Georgia met these two criteria: Bacon; Baker; Brantley; Candler; Grady; Long; McIntosh; Pelham City; Stewart; Talbot; Treulten; and Wilcox. Data collection sheets (Appendix D) were mailed to 94 kindergarten teachers in these twelve school systems. Information describing the race, gender, type of prekindergarten program, and total DIAL-R score of each of their students was requested. The return rate of the data collection sheets for each of the twelve school systems is presented in Table 5. The sample for this study involved a total of 1,211 entering kindergarten students in twelve school systems throughout southern Georgia. Replies were received from each of the twelve school systems with data sheets being returned by 83 of the 94 kindergarten teachers for an overall return rate for this study of 88%. Seven of the twelve school systems responded with a 100% return rate.

Demographic Characteristics of Kindergarten Students in the Sample

Gender Distribution

Of the 1,211 kindergarten students included in this study, 599 students (49%) were male and 612 students (51%) were female. The total gender distribution of the sample as well as the gender distribution for each of the individual prekindergarten programs are presented in Table 6.

Table 5

Participating School Systems: Data Collection Return Rate Information(N=1,211)

System	No. of K Units	No. Responded	Percentage	<u>n</u>
Bacon	8	6	75	95
Baker	3	3	100	42
Brantley	13	13	100	197
Candler	13	13	100	132
Grady	18	14	78	216
Long	7	7	100	101
McIntosh	6	3	50	21
Pelham City	8	7	87	93
Stewart	4	4	100	65
Talbot	4	4	100	82
Treutlen	5	4	80	67
Wilcox	5	5	100	100
Total	94	83	88	1,211

Note. The number of kindergarten students in each system is represented by n.

Table 6

Gender Distribution of First Year Kindergarten Students (N = 1,211)

Type of Prekindergarten program	<u>Gender</u>				Total
	Male		Female		
	<u>n</u>	%	<u>n</u>	%	
Head Start	84	47	94	53	178
GA Lottery Pre-K	340	49	355	51	695
Other	69	53	60	47	129
None	106	51	103	49	209
Total	599	49	612	51	1,211

Racial Distribution

Of the 1,211 kindergarten students included in this study, 639 students (53%) were white, 524 students (43%) were black, and 48 students (4%) were of other races. The total racial distribution as well as the racial distribution for each individual prekindergarten program are presented in Table 7.

Analysis of Data

The statistical method selected for use in this study was a one-way ANOVA. The application of a one-way ANOVA allowed for the examination of the differences between the mean scores on the DIAL-R of kindergarten students with respect to their varying prekindergarten experiences. Four levels of an independent variable (type of prekindergarten experience) and one dependent

variable (DIAL-R total score) were identified as the variables of interest in this study. Further analyses through the Scheffe' Method of Multiple Comparisons procedure determined if there were any significant differences between specific types of prekindergarten programs. Because of the unequal n 's, the Scheffe' is the most appropriate multiple comparison procedure to use.

Table 7

Racial Distribution of First Year Kindergarten Students (N = 1,211)

Type of prekindergarten program	Race						Total
	White		Black		Other		
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	
Head Start	39	22	133	75	6	3	178
GA Lottery Pre-K	360	52	309	44.5	26	3.5	695
Other	94	73	33	26	2	1	129
None	146	70	49	23	14	7	209
Total	639	53	524	43	48	4	1,211

Interpretation of Descriptive Statistics

The mean DIAL-R scores (M), standard deviation for these scores (SD), and the participation count for each of the four prekindergarten programs of interest (n) are presented in Table 8. More kindergarten students participated in Georgia's lottery-funded PreK program ($n = 695$) than in any of the other

programs. Nonparticipation in any program had the second highest representation ($n = 209$). Head Start students had the second lowest participation ($n = 178$). Participation in the category of other (day-care, church, or private) prekindergarten programs had the smallest representation ($n = 129$). Students participating in the category of other prekindergarten programs had the highest mean scores on the DIAL-R ($M = 75.22$); students participating in Georgia's lottery-funded PreK yielded the second highest mean scores ($M = 74.14$); students participating in Head Start produced the second lowest scores ($M = 71.94$); and students who did not participate in any type of prekindergarten program yielded the lowest mean scores ($M = 66$). The largest standard deviation of mean scores ($SD = 16.43$) was found for those students who had not participated in any type of prekindergarten program indicating that these students had the greatest variability in their scores. Students participating in Head Start had the least variability in their scores ($SD = 11.89$).

Application of the One-way ANOVA

In order to assess the likelihood of generalizing the results of this study to a larger population and to determine if any statistically significant difference existed between the DIAL-R scores for participants in Georgia's lottery-funded PreK and the three other types of prekindergarten programs, a one-way ANOVA and post hoc multiple comparison procedures were conducted. Three assumptions (Glass & Hopkins, 1996) must be met prior to the interpretation of the ANOVA results: (1) population of scores is normal in form; (2) homogeneity of variance (variances for the groups are equal); and (3) independence of errors.

Application of the Levene Test for Homogeneity of Variances produced a 2-tail significance level less than the designated alpha ($.00 < .05$). This indicated that the assumption of homogeneity of variance had been violated. "When n 's are equal, violations of the homogeneity of variance assumption have

negligible consequences on the accuracy of the probability statement or power” (Glass & Hopkins, 1996, p. 405). The unequal n's of the four prekindergarten programs (n's = 695, 209, 178, 129) and heterogeneity of variances caused the violation of one of the ANOVA assumptions, homogeneity of variance. Consequently, the results of the ANOVA could not be accurately interpreted or analyzed in their current form.

Table 8

Mean DIAL-R Scores by Prekindergarten Experience (N=1,211)

Program	<u>M</u>	<u>SD</u>	<u>n</u>
Head Start	71.94	11.89	178
GA Lottery Pre-K	74.14	13.04	695
Other	75.22	13.22	129
None	66.00	16.43	209
Total	72.53	13.89	1211

Note. The maximum possible score that can be obtained on the DIAL-R is 93.

In order to correct for the violation of the assumption of homogeneity of variance, a conversion of the original dependent variable was applied (Glass & Hopkins, 1996). This conversion, the transformation of the dependent variable (DIAL-R total score) using a reciprocal transformation, stabilized the variance. Reciprocal transformations of each DIAL-R Total Score were obtained by dividing each obtained score into a constant of one. Thus, the reciprocal

transformation of a score of 10 becomes .1. The Levene Test for Homogeneity of Variances was conducted following the reciprocal transformation. These results showed that the assumption of homogeneity of variance had, in fact, been met with a 2-tail significance level greater than the designated alpha (.068 > .05). Thus, the results of the one-way ANOVA can be accurately interpreted and analyzed for significance and generalizability.

Findings

The application of the one-way ANOVA revealed that a statistically significant difference did exist between mean scores on the DIAL-R of kindergarten students who had participated in the four types of prekindergarten experience: Head Start; Georgia's lottery-funded PreK; the category of other; and none ($F = 4.57$, $p = .003$). The results of the one-way ANOVA using a reciprocal transformation are presented in Table 9.

Table 9

ANOVA for DIAL-R Scores by Type of Prekindergarten

Experience (N = 1,211)

Source	<u>df</u>	<u>ss</u>	<u>ms</u>	<u>F</u>	<u>p</u>
Between groups	3	.0007	.0002	4.57	.003
Within groups	1203	.0638	.0001		
Total	1206	.0645			

Because a statistically significant difference was found within the groups, a post hoc multiple comparison test was performed to determine if a statistically significant difference existed between Georgia's lottery-funded PreK and the other types of prekindergarten. Since the condition of unequal n 's was present, a Scheffe' Method of Multiple Comparisons was performed (Glass & Hopkins, 1996). Analysis of the results of the application of the Scheffe' Method of Multiple Comparisons revealed that there was a statistically significant difference in the DIAL-R scores of those kindergarten students who had participated in Georgia's lottery-funded PreK program and those students who had not participated in any type of prekindergarten program.

An examination of Table 10 reveals that kindergarten students who had previously participated in Georgia's lottery-funded PreK program had significantly higher mean scores on the DIAL-R ($M = 74.14$, $SD = 13.04$) than those students who had not participated in any type of prekindergarten program ($M = 66$, $SD = 16.43$). There were differences between the means scores of Georgia's lottery-funded PreK and the three other types of prekindergarten programs. However, there were no statistically significant differences found between the mean scores of students who had participated in Georgia's lottery-funded PreK ($M = 74.14$, $SD = 13.04$) and Head Start ($M = 71.94$, $SD = 11.89$) or between Georgia's lottery-funded PreK ($M = 74.14$, $SD = 13.04$) and the category of other ($M = 75.22$, $SD = 13.22$) prekindergarten programs. Using the DIAL-R as an indicator of preparedness for kindergarten, Georgia's lottery-funded PreK students are more prepared for kindergarten than students who did not participate in any type of prekindergarten program.

An examination of Table 10 also reveals that students who participated in the category of other prekindergarten programs had significantly higher mean scores on the DIAL-R ($M = 75.22$, $SD = 13.22$) than students who had not

participated in any type of prekindergarten programs ($M = 66$, $SD = 16.43$).

Using the DIAL-R as an indicator of preparedness for kindergarten, students who participated in the category of other prekindergarten programs (private, church, or day-care) are more prepared for kindergarten than students who did not participate in any type of prekindergarten program.

Table 10

Scheffe' Method of Multiple Comparison for Type of Program (N = 1,211)

Type of prekindergarten program	Other	Lottery	HS	None
	<u>M</u>	<u>M</u>	<u>M</u>	<u>M</u>
	75.22	74.14	71.94	66
Other				
Lottery				
Head Start				
None	*	*		

* $p < .05$.

Collection of additional data allowed for an examination of a second variable .

An inspection of the mean DIAL-R scores presented in Table 11 shows that female students had higher mean scores than male students. Results of the independent t-test associated with gender show that these differences are statistically significant ($p < .05$). Using the DIAL-R as an indicator of preparedness for kindergarten, females are more prepared than males for kindergarten.

Table 11

Mean DIAL-R Scores for Kindergarten Students Listed by Gender (N=1,211)

Gender	<u>M</u>	<u>SD</u>	<u>n</u>
Male	70.66	14.42	599
Female	74.35	13.10	612

Note. t-value = 2.17; 2-Tail significance = .031

Summary

This study examined the question: Have Georgia's lottery-funded PreK students in rural Georgia entered kindergarten with differences in preparedness from students who did not participate in Georgia's lottery-funded PreK program? Participants in the alternate types of programs are those students who participated in Head Start, the category of other (private, day-care, or church), or had no participation in any type of prekindergarten. The total DIAL-R scores of 1,211 kindergarten students in twelve counties throughout rural southern Georgia were collected. Additionally, information describing the type of prekindergarten program (Head Start; Georgia's lottery-funded PreK; the category of other; or none) in which these kindergarten children participated was also collected. Demographic data in the form of race and gender were collected in order to describe the population for generalizability considerations.

The mean scores of the DIAL-R for each group were analyzed through a one-way ANOVA to determine if the type of prekindergarten program in which the child participated had a significant effect on the DIAL-R scores. Since a statistically significant difference existed among the DIAL-R scores, further post

hoc comparison was done through the Scheffe' Method of Multiple Comparisons. Results revealed that kindergarten students who had participated in Georgia's lottery-funded PreK program did have significantly higher mean scores on the DIAL-R than those students who had not participated in any type of prekindergarten program. However, no significant differences were found between the mean scores on the DIAL-R of Georgia's lottery-funded PreK participants and participants in the category of other programs or Head Start. There was also found to be a statistically significant difference between the mean DIAL-R scores of students who had participated in the category of other prekindergarten programs (private, church, or day-care) and the mean DIAL-R scores of students who had no participation in any type of prekindergarten program. Additional analysis of the impact of gender on preparedness revealed that females were more prepared for kindergarten than males for kindergarten.

Chapter V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary

This study examined the impact of Georgia's lottery-funded PreK on its participants' preparedness for kindergarten. The following question was posited: Have Georgia's lottery-funded PreK participants in rural Georgia entered kindergarten with differences in preparedness from entering kindergartners who did not participate? Participation in alternate types of prekindergarten included participation in Head Start, participation in the category of other programs (private, church, or day-care), or no participation in any type of program. Data was collected which described entering kindergartners in twelve school systems in five Regional Educational Service Agencies (RESA) districts in rural southern Georgia. Two criteria were established for participation in this study: (1) entering kindergartners participated in kindergarten screening; and (2) the Developmental Indicators for the Assessment of Learning-Revised (DIAL-R) was used as one of the screening instruments. Kindergarten retainees were excluded.

Because the DIAL-R has been reported to successfully predict kindergarten performance (Conoley & Impara, 1995), it was chosen as the standardized screening instrument used to gather data on entering kindergartners. The DIAL-R (Mardell-Czudnowski & Goldenberg, 1990) was designed to identify children during a screening process who may need additional diagnostic assessment. The DIAL-R has been identified as a developmentally appropriate screening instrument with good reliability and validity measures (Mardell-Czudnowski & Goldenberg).

Contacts with curriculum directors in every rural school system in southern Georgia established that these school systems met the criteria for participation in this study: Bacon; Baker; Brantley; Candler; Grady; Long; McIntosh; Pelham City; Stewart; Talbot; Treulten; and Wilcox. Within these twelve school systems, 94 kindergarten teachers were identified who were each mailed a data collection sheet (Appendix D). Information describing race, gender, type of prekindergarten program, and total DIAL-R score for each student was requested. Data sheets were returned by 83 of the 94 kindergarten teachers for an overall return rate of 88%. Seven of the twelve school systems responded with a 100% return rate. Consequently, the sample for this study involved 1,211 entering kindergarten students in twelve school systems throughout southern Georgia.

In order to describe this population and to generalize the results of this study to larger populations, gender and racial characteristics were collected. Of the 1,211 kindergarten students included in this study, 599 students (49%) were male and 612 students (51%) were female. Racial distribution was as follows: 639 students (53%) were white; 524 students (43%) were black; and 48 students (4%) were of other races.

Participation in the four types of prekindergarten programs (Georgia's lottery-funded PreK, Head Start, the category of other, or none) was largest in Georgia's lottery-funded PreK program with 695 students (57.4%) included. Of the sample of students, 209 (17.3%) did not participate in any prekindergarten program. Of the remaining students, 178 participated in Head Start (14.6%) and 129 participated in the category of other programs (10.7%).

An examination of the mean scores on the DIAL-R yielded the following results: Students participating in the category of other prekindergarten programs

had the highest mean scores on the DIAL-R ($\underline{M} = 75.22$); students participating in Georgia's lottery-funded PreK yielded the second highest mean scores ($\underline{M} = 74.14$); students participating in Head Start produced the second lowest scores ($\underline{M} = 71.94$); and students who did not participate in any form of prekindergarten yielded the lowest mean scores ($\underline{M} = 66$). The largest standard deviation of mean scores ($\underline{SD} = 16.43$) was found in those students who had not participated in any type of prekindergarten program indicating that these students had the greatest variability in their scores.

Further analyses of the data were conducted through a one-way ANOVA and post hoc procedures. It was established that statistically significant differences did exist among the four prekindergarten groups with respect to the varying prekindergarten experiences. Participants in Georgia's lottery-funded PreK program did have significantly higher scores than students who did not participate in any form of prekindergarten. However, no statistically significant differences were found between Georgia's lottery-funded PreK participants and those that participated in Head Start or other programs. Additional examination of the results of post hoc procedures revealed that there were statistically significant differences found between students who participated in the category of other forms of prekindergarten and those students who did not participate in any form of prekindergarten. Thus, participation in Georgia's lottery-funded PreK program and participation in the category of other prekindergarten (private, church, day-care) yielded DIAL-R total scores that were significantly higher than those of students who did not participate in any type of prekindergarten. Because the Dial-R scores were higher, these students can be considered to be better prepared for kindergarten.

In summary, the purpose of this study was to examine the differences in preparedness of Georgia's lottery-funded PreK participants in rural Georgia and

students who did not participate in this program. Participation in alternate types of prekindergarten included: Head Start, the category of other, or no participation. It was determined that these students were better prepared to enter kindergarten than those students who did not participate in any type of prekindergarten program. More students in southern Georgia participated in Georgia's lottery-funded PreK program than in Head Start, the category of other programs, or no prekindergarten programs. Additional analysis of other data which were collected also revealed the following: (1) students who participated in the category of other prekindergarten programs were better prepared to enter kindergarten than students who did not participate in any program; and (2) female students were better prepared to enter kindergarten than male students.

Discussion of Research Findings

This study examined the differences in preparedness of Georgia's lottery-funded PreK students in rural Georgia and students who did not participate in this program. Participation in alternate types of prekindergarten included: Head Start, the category of other, or no participation. A synthesis of the existing educational research with a discussion of these findings has enhanced these results.

Prekindergarten Programs

A plethora of educational research has supported the success of participation in some type of prekindergarten programs. Both short-term gains and long-term benefits have been substantiated. Condry (1983) reported on the initial short-term academic gains and the lasting positive effects on the subjects' social and emotional behavior. Marcon (1994) concluded that participation in early childhood education programs had a positive effect on later school performance for those who had participated.

The Perry Preschool longitudinal studies (Schweinhart, 1988; Schweinhart & Weikart, 1993; Schweinhart, Weikart, & Larner, 1986) provided information that demonstrated powerful examples of research that supported the long-term social benefits of participation in preschool programs. Preschool education resulted in short-term benefits of intellectual development and improved social skills at the elementary level. Long-term social benefits included: a decreased need for welfare, reduction in the drop-out rates, and a smaller rate of juvenile delinquency.

Prekindergarten Program Participation in Rural Southern Georgia

The results of this study revealed that students who participated in Georgia's lottery-funded PreK program and students who participated in the category of other prekindergarten programs were better prepared to enter kindergarten than students who participated in no prekindergarten programs. Additionally, an examination of the number of participants in each of the programs indicated that participation in prekindergarten programs was unequal. In rural southern Georgia the largest number of participants was in Georgia's lottery-funded PreK. However, the majority of the remaining students in the sample did not participate in any type of prekindergarten program. The positive impact of participation in preschool and prekindergarten programs has been supported in the literature (Condry, 1983; Marcon, 1994; Schweinhart, Weikart, & Larner, 1986).

It was established through this study that students in rural Georgia who participated in Georgia's lottery-funded PreK were better prepared for kindergarten than those who did not participate in any type of program. Participation in alternate programs included: Head Start, the category of other, or no participation. Pilcher (1994) and Quay (1996) found that at-risk kindergarten students who had participated in this program differed from other kindergartners with higher ratings in developmental areas of academic, social,

communication, physical, and self-help. Survey research conducted by the Council for School Performance (1996) indicated that parents of Georgia's lottery-funded PreK students perceived PreK to be very beneficial in preparing their children for kindergarten. The goal of the creators of Georgia's lottery-funded PreK program has been to provide Georgia's young children with the learning experience they need in order to prepare them for kindergarten (Office of School Readiness, 1997a). The Office of School Readiness which is the governing agency for Georgia's lottery-funded PreK has presented the program to the public as fulfilling its mission of preparing its participants for kindergarten. The results of this study have indicated that Georgia's lottery-funded PreK participants and participants in the category of other prekindergarten programs are more prepared for kindergarten than those children who did not participate in any type of prekindergarten program.

Previous research conducted to investigate Georgia's lottery-funded PreK program included only at-risk populations of four-year-olds (Council for School Performance, 1996; Pilcher, 1994; Quay, 1996). Their research examined attendance, curricular choices, retention, and developmental growth. However, further evaluation of Georgia's lottery-funded PreK program, which is now available to all of Georgia's four-year-olds, was needed. This study included a sample of all of the entering kindergartners in rural southern Georgia, not just those identified as at-risk.

Gender

Gender can play an important role in a child's successful transition through kindergarten. A nurturing kindergarten curriculum that emphasizes social and emotional status has been found to be particularly advantageous to boys (Cohen, 1994). The developmental stages (Elkind, 1988) unique to young males and females must be recognized. Fuerst and Fuerst (1993) examined the impact

of the combination of race and gender and found that a significant difference was found in achievement of black females who were exposed to early childhood programs. Pilcher (1994) found no statistically significant differences of the developmental rating scores between male or female participants in Georgia's lottery-funded PreK Program. The population for her study was identified as at-risk.

Through the collection of data for this study, additional analyses allowed for a brief examination of the impact of gender on a student's preparedness. In contrast to Pilcher's findings, ancillary findings in this study revealed that females were more prepared than males for kindergarten when the DIAL-R was used as a measure of preparedness and the population was expanded beyond at-risk children.

Preparedness

Many factors have been identified in the research as indications of a child's preparedness for kindergarten: (1) an understanding and use of language; (2) physical and mental health; (3) an eagerness to learn; (4) the demonstration of self-control; (5) the ability to follow directions; and (6) appropriate social skills (Day, 1988; Office of Educational Research and Improvement, 1991; Salyers, 1999; Wendt, 1979). However, (NAEYC, 1996) when identifying preparedness, the complexity and diversity in young children must be considered. Wolf and Kessler (1987) cautioned that there is not one best age to begin formal schooling.

In order to assess preparedness with a standardized measure, the DIAL-R was selected. The DIAL-R (Mardell-Czudnowski & Goldenberg, 1990) was designed as an individually administered screening instrument. It has been reported by Conoley and Impara (1995) to successfully predict kindergarten preparedness.

The results of this study investigated the preparedness of Georgia's lottery-funded PreK participants in rural Georgia as they entered kindergarten. Ancillary findings allowed for the investigation of the preparedness of those prekindergarten children who had participated in alternate types of prekindergarten programs as well as the effect of gender on preparedness. Preparedness for kindergarten was measured by the DIAL-R which was used in kindergarten screening procedures.

Conclusions

The research question was asked: Have Georgia's lottery-funded PreK participants in rural Georgia entered kindergarten with differences in preparedness compared to students who participated in Head Start, no programs, or the category of other programs? It was established through this study that students in rural Georgia who participated in Georgia's lottery-funded PreK program demonstrated differences in preparedness when compared to students who did not participate in any type of prekindergarten program. Because their mean DIAL-R scores were significantly higher than students who did not participate in any type of prekindergarten, participants in Georgia's lottery-funded PreK program were better prepared to enter kindergarten. However, no significant differences were found between Georgia's lottery-funded PreK participants' preparedness and preparedness of those who participated in Head Start or in the category of other prekindergarten programs.

Second, it was found that those students who participated in the category of other prekindergarten programs (private, church, or day-care) were also better prepared to enter kindergarten than those students who did not participate in any type of prekindergarten program. Results of data analysis revealed that their mean DIAL-R scores were significantly higher than students who did not participate in any type of prekindergarten program.

Third, there were no statistically significant differences found between the mean DIAL-R scores of Head Start students and the alternate types of prekindergarten programs (Georgia's lottery-funded PreK, the category of other, and no participation). When the mean DIAL-R scores for the four types of prekindergarten programs were ranked, Head Start was ranked third.

Fourth, the total number of participants in each of the four types of prekindergarten programs was examined. In rural southern Georgia, the largest number of participants was in Georgia's lottery-funded PreK program. However, it is noteworthy that nearly 18% of the students in this sample did not participate in any type of prekindergarten program. Fifth, inspection and analysis of the collection of additional data indicated that females were more prepared for kindergarten than males.

The purpose of this study was to examine the differences in preparedness of Georgia's lottery-funded PreK participants in rural Georgia and students who did not participate in this program. Participation in alternate types of prekindergarten included: Head Start, the category of other, or no participation. The DIAL-R was selected as the instrument used to measure preparedness of entering kindergartners. Students who participated in Georgia's lottery-funded PreK program and in the category of other prekindergarten programs (private, church, or day-care) had statistically significant higher scores than students who participated in no prekindergarten programs. Consequently, these students are better prepared.

Implications

This study indicated that Georgia's lottery-funded PreK program in rural Georgia is working. Its participants are more prepared for kindergarten than students who did not participate in any type of prekindergarten program. Participants in the category of other prekindergarten programs (private, day-

Third, there were no statistically significant differences found between the mean DIAL-R scores of Head Start students and the alternate types of prekindergarten programs (Georgia's lottery-funded PreK, the category of other, and no participation). When the mean DIAL-R scores for the four types of prekindergarten programs were ranked, Head Start was ranked third.

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Implications

This study indicated that Georgia's lottery-funded PreK program in rural Georgia is working. Its participants are more prepared for kindergarten than students who did not participate in any type of prekindergarten program. Participants in the category of other prekindergarten programs (private, day-

care, or church) are also more prepared for kindergarten than students who did not participate in any type of prekindergarten program. Policy makers and the Office of School Readiness personnel should continue to support and work to expand developmentally appropriate prekindergarten programs. Early childhood educators and service coordinators who work with parents of young children need to encourage participation in Georgia's lottery-funded PreK program and in the category of other prekindergarten programs (church programs, private programs, or day-care).

A large number of prekindergarten children in rural southern Georgia have gone unserved. It is significant that 17.3% of the students in this study did not participate in any type of prekindergarten program. Results of this study showed that they were not prepared as well for kindergarten as those who had participated in Georgia's lottery-funded PreK or in the category of other programs. This study supported the educational research that participation in prekindergarten programs does enhance preparedness for kindergarten. Community leaders, child advocates, and policy makers need to expand community awareness. Legislators and funding agencies should enhance additional funding for prekindergarten programs and assist community leaders in locating additional funding sources.

School administrators of primary schools should note the findings which indicated that males are less prepared for kindergarten than females. This information should be shared with kindergarten teachers so that their expectations and teaching practices can reflect these findings. The developmental levels and individual needs of the kindergarten child should be considered. School administrators should also note the findings that students who had no participation in prekindergarten are not prepared for kindergarten.

The kindergarten curriculum objectives and teacher expectations should reflect this research.

An inspection of the mean DIAL-R scores revealed that students who participated in the category of other forms of prekindergarten (private, church, day-care) had the highest mean scores. There was a statistically significant difference between these mean scores and the mean scores of those students that did not participate in any program.

Recommendations

Based upon the findings and conclusions of this study into the differences in preparedness of Georgia's lottery-funded PreK participants in rural Georgia and students who did not participate in this program, the following recommendations have been made:

Recommendations for policy makers and school administrators:

(1) The positive results of participation in prekindergarten programs has been supported by this study and by previous educational research.

Consideration should be given to the expansion of support and funding for developmentally appropriate prekindergarten programs.

(2) Educational research as well as the ancillary findings in this study indicate that boys are less prepared for kindergarten than girls. Educational pundits encourage developmentally appropriate instruction with an emphasis on individual growth while they discourage grade retention. School system personnel should evaluate retention practices of kindergarten students and examine the demographics of the population being retained.

(3) A child-centered, developmentally appropriate curriculum is advocated by educational researchers. An evaluation and revision of the existing kindergarten curriculum objectives to reflect the findings of this study which corroborate the current educational research is recommended.

Recommendations for further research:

(1) This study included entering kindergarten students in rural southern Georgia. Generalizability of the results to all of rural Georgia was established. However, this study should be replicated for kindergarten students in urban Georgia.

(2) This study included students who participated in Georgia's voluntary lottery-funded PreK program which was available to any of Georgia's four-year-olds. Previous studies of Georgia's lottery-funded PreK program included only an at-risk population. The Office of School Readiness should use the results of this study which included any of Georgia's four-year-olds to expand research opportunities and broaden evaluation practices. Also, the Office of School Readiness should continue to investigate the relationship of race and gender to participants' preparedness.

(3) A qualitative investigation which examines the participants of the various prekindergarten programs experiences in prekindergarten would assist educational leaders in program evaluation and planning. The factors such as: race, gender, class size, instructional practices, and teacher attitudes could be examined in a multi-site case study.

(4) In the analysis of the differences in various prekindergarten programs participants' preparedness for kindergarten, participation in Head Start did not reveal any statistically significant differences. Further research should be conducted as to the success of Head Start in preparing its participants for kindergarten where the influence of the variable of socioeconomic status (SES) is removed since Head Start consists of an entirely at-risk population.

References

- Adams, G., & Sandfort, J. (1994). First steps, promising futures: State Prekindergarten initiatives in the early 1990s. Washington, DC: Children's Defense Fund.
- American Association of School Administrators. (1992). Getting your child ready for school . . . and the school ready for your child. Arlington, VA: Author.
- Anderson, B. (1994). The effect of preschool education on academic achievement of at risk children. (ERIC Document Reproduction Service No. 382 318)
- Association for Supervision and Curriculum Development. (1988). Analysis of issues concerning public school involvement in early childhood education. In C. Warger, (Ed.), A resource guide to public school early childhood programs (pp. 99-115). Alexandria, VA: Association for Supervision and Curriculum Development.
- Bauch, J. (Ed.). 1988. Early Childhood Education in the Schools. Washington, DC: National Educational Association.
- Beckler, J. (1970). Congress and the administration scrutinize the results of Title I. School Management, 14 (9), 6-7, 36.
- Beller, E. (1983). The Philadelphia study: The impact of preschool on intellectual and socioemotional development. In The Consortium for Longitudinal Studies (Ed.), As the twig is bent . . . lasting effects of preschool programs (pp. 333-376). Hillsdale, NJ: Lawrence Erlbaum Associates.

Berrueta-Clement, J., Schweinhart, L., Barnett, W.S., Epstein, A., & Weikart, D. (1984). *Changed Lives: The effects of the Perry Preschool Program on youths through age 19*. Ypsilanti, MI: High/Scope Press.

Borg, W., & Gall, M. (1989). Educational research: An introduction. New York, NY: Longman.

Boyer, E. (1991). Ready to Learn. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching.

Campbell, F., & Taylor, K. (1996). Early childhood programs that work for children from economically disadvantaged families. Young Children, 51 (4), 74-80.

Chew, A., & Lang, S. (1990). Predicting academic achievement in kindergarten and first grade from prekindergarten scores on the Lollipop test and DIAL. Educational and Psychological Measurement, 50, 431- 437.

Cleary, F., & Bell, N. (1990). Ounce of prevention. The American School Board Journal, 177 (11), 28, 41.

Cohen, D. (1994, March 30). Back less formal kindergarten. Online. path-
<http://www.edweek.org/ew/vol-13/27child.h13>

Condry, S. (1983). History and background of preschool intervention programs and consortium for longitudinal studies. In The Consortium for Longitudinal Studies (Ed.), As the twig is bent . . . lasting effects of preschool programs (pp. 1-31). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Conoley, J., & Impara, J. (Ed.). (1995). The twelfth mental measurements yearbook. Lincoln, NE: University of Nebraska Press.

Council for School Performance (1996). Quality and effectiveness of the Pre-Kindergarten program: Parental perspectives, Policy Brief. Atlanta, GA: Georgia State University.

Day, B. (1988). What's happening in early childhood programs across the United States. In C. Warger (Ed.), A resource guide to public school early childhood programs (pp. 3-31). Alexandria, VA: Association for Supervision and Curriculum Development.

DeRoche, T. (1997, February 26). What's a superintendent to do? Education Week, p. 52.

Division of Exceptional Students. (1994). Georgia special education rules. Atlanta, GA: Georgia Department of Education.

Dunn, L., & Kontos, S. (1997). What have we learned about developmentally appropriate practice? Young Children 52 (5), 4 -13.

Educational Press Association of America. (1960). Small-sample techniques. NEA Research Bulletin (1960). Washington, DC: Author.

Egerston, H. (1987). The shifting kindergarten curriculum (Report No. PS 017262). Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 293 630)

Elkind, D. (Speaker). (1987). Education of the young child [Videotape]. (Available from the National Association of the Education of Young Children, 1834 Connecticut Avenue, NW, Washington, DC, 20009)

Elkind, D. (1988). In defense of early childhood education. In J. Bauch (Ed.), Early childhood education in the schools (pp. 84-87). Washington, DC: National Educational Association.

Evans, S., & Loupe, D. (1995, July 23). Schools discover pre-kindergarten carries high price. The Atlanta Journal/The Atlanta Constitution, p. C1.

Families and Work Institute. (1996). Brain Development Research. Online. path-http://www.america-tomor . . . /naeyc/eyly/eyly9711.txt

Feder-Feitel, L. (1996). Is your child ready for kindergarten? Child, 11 (5), 63-65.

Fuerst, J., & Fuerst, D. (1993). Chicago experience with an early childhood program: The special case of the child parent program. Educational Research, 35, 237-253.

Fuerst, J., & Petty, R. (1996). The best use of federal funds for early childhood. Phi Delta Kappan, 77, 676-679.

Futrell, M. (1988). Public schools and four-year-olds. In J. Bauch (Ed.), Early childhood education in the schools (pp. 119-121). Washington, DC: National Education Association.

Georgia Department of Education. 1995-1996 Georgia public education report card. Atlanta, GA: Author.

Georgia lottery's school fund a trendsetter. (1997, February 18). USA Today, p. 6A.

Glass, G., & Hopkins, K. (1996). Statistical methods in education and psychology. Needham Heights, MA: Simon & Schuster.

Goffin, S., & Lombardi, J. (1988). Speaking out: Early childhood advocacy. Washington, DC: National Association for the Education of Young Children.

Gray, S. (1983). Enduring effects of early intervention: Perspectives and perplexities. Peabody Journal of Education, 60 (3), 70-84.

Gridley, B., Mucha, L., & Hatfield, B. (1995). Best practices in preschool screening. In A. Thomas & J. Grimes (Eds.), Best practices in school psychology (pp. 213-225). Washington, DC: National Association of School Psychologists.

Hirsh-Burger, M. (1991). Present and future concerns for children. In D. Elkind (Ed.), Perspectives on Early Childhood Education (pp. 35 - 46). Washington, DC: National Education Association.

Jacob, S., Snider, K., & Wilson, J. (1988). Validity of the DIAL-R for identifying children with special education needs and predicting early reading achievement. Journal of Psychoeducational Assessment, 2, 289-297.

Jacobson, L. (1996, September 18). Carnegie offers reform strategy for ages 3 to 10. Education Week, pp.1, 13.

Jacobson, L. (1997a, April 23). Clinton announces 5 child-care, early-years initiatives. Education Week, p. 6.

Jacobson, L. (1997b, May 14). Miller: A passion for improving schools in Georgia. Education Week, pp. 8,14.

Jacobson, L., & White, K. (1997, August 6). Clinton presses governors on welfare, test initiative. Education Week, pp. 20, 25.

James, J. (1991). An examination of standardized testing for Georgia kindergarten entrance procedures. (Doctoral dissertation, University of Georgia, 1991). Dissertation Abstracts International, 53-07A, 2341.

Katz, L. (Speaker). (1964). Curriculum for preschool and kindergarten [Videotape]. (Available from The National Association for the Education of Young Children, 1834 Connecticut Avenue, NW, Washington, DC, 20009)

Katz, L. (1994a). Perspectives on the quality of early childhood programs. Phi Delta Kappan, 76, 200-205.

Katz, L. (1994b). What should be learned in kindergarten [Brochure]. Washington, DC: U. S. Department of Education.

Kelley, M., & Surbeck, E. (1991). History of preschool assessment. In B. Bracken (Ed.), The psychoeducational assessment of preschool children (pp. 1-17). Needham Heights, MA: Allyn and Bacon.

Kimbrough, R., & Nunnery M. (1988). Educational administration. New York: Macmillan Publishing Company.

Kirk, S., Gallagher, J., & Anastasiow, N. (1993). Educating exceptional children. Boston: Houghton Mifflin.

Krathwohl, D. (1993). Methods of educational and social science research. New York, NY: Longman Publishing Group.

Krejcie, R., & Morgan, D. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30, 607-610.

Lee, V., & Loeb, S. (1995). Where do Head Start attendees end up? One reason why preschool effects fade out. Educational Evaluation and Policy Analysis, 17 (1), 62-82.

LoMonte, F. (1995, November 6). Pre-kindergarten program having growing pains. The Savannah Morning News, pp. A1. A6.

Loupe, D. (1994, October 24). Preschool touted as crime fighter. The Atlanta Journal/The Atlanta Constitution, p. C4.

Loupe, D. (1997, July 13). Policing pre-k programs. The Atlanta Journal/The Atlanta Constitution, p. G5.

Marcon, R. (1994). Early learning and early identification follow up study: Transition from the early to the late childhood grades, 1990-1993 (Report No. PS 022385). Washington, DC: District of Columbia Public Schools. (ERIC Document Reproduction Service No. ED 370 699)

Marcon, R. (1996, March). Head start graduates: Making the transition from the early to the later childhood grades. Paper presented at the Biennial Conference on Human Development, Birmingham, AL.

Mardell-Czudnowski, C., & Goldenberg, D. (1984). Revision and restandardization of a preschool screening test: DIAL becomes DIAL-R. Journal of the Division for Early Childhood, 8, 149-156.

Mardell-Czudnowski, C., & Goldenberg, D. (1990). Developmental Indicators for the Assessment of Learning-Revised: Manual. Circle Plains, MN: American Guidance Service.

McMillan, J., & Schumacher, S. (1993). Research in education: A conceptual introduction. New York, NY: Harper Collins College Publishers.

Meisels, S. (1987). Uses and abuses of developmental screening and school readiness testing. Young Children, 42 (2), 4-6, 68-73.

Miller, L., & Sprong, T. (1986). Psychometric and qualitative comparison of four preschool screening instruments. Journal of Learning Disabilities, 19, 480-484.

Molnar, G., & Reighard, C. (1984, April). Kindergarten screening: A tool for early intervention of learning problems. Paper presented at the meeting of the National Association of School Psychologists, Philadelphia, PA.

NAEYC. (1988). Testing of young children: Concerns and cautions [Brochure]. Washington, DC: Author.

NAEYC. (1995). Ready or not . . . What parents should know about school readiness [Brochure]. Washington, DC: Author.

NAEYC. (1996). NAEYC Position Statement on School Readiness. Online. path-<http://www.america-tomorrow.com/naeyc/position/psready.htm>

NAEYC. (1997a). Guiding principles for the development, analysis, and implementation of early childhood legislation. [Brochure]. Washington, DC: Author.

NAEYC. (February 19, 1997b). Response to Misinformation Regarding Developmentally Appropriate Practice. Online. path-<http://www.america-tomorrow.com/naeyc/dapattak.htm>

NAEYC. (April 25, 1997c). White House Conference on Early Child Development and Learning. Online. path-<http://www.america-tomorrow.com/naeyc/news/whouse.htm>

National Association of School Psychologists. (May 15, 1997). Position Statement/Early Childhood Care and Education. Online. path-<http://www.uncg.edu/~ericcas2/nasp/ecce.html>

Neugebauer, R. (1991). Pre-K in the public schools: Status report #1. Child Care Information Exchange, 82, 5-7,9-13.

Newberger, J. (1997). New brain development research-a wonderful window of opportunity to build public support for early childhood education! Young Children, 52 (4), 4-9.

Newman, F. (1991). School readiness and state action. In D. Elkind (Ed.), Perspectives in early childhood education (pp. 99-103). Washington, DC: National Education Association.

New study questions state Pre-K benefits. (1997, May 23). Statesboro Herald, p.1.

Nurss, J. (1987). Readiness for kindergarten. Washington, DC: Office of Educational Research and Improvement. (ERIC Clearinghouse on Elementary and Early Childhood Education ED 291 514)

Office of Educational Research and Improvement. (1990). Four-year-olds and public schooling (Report NO. EDO-PS-90-06). Washington, DC: Office of Educational Research and Improvement (ERIC Clearinghouse on Elementary and Early Childhood Education No. ED 325 204)

Office of Educational Research and Improvement. (1991). Readiness: Children and schools (Report No. EDO-PS-91-4). Washington, DC: Office of Educational Research and Improvement (ERIC Clearinghouse on Elementary and Early Childhood Education No. ED 330 495)

Office of School Readiness. (1996). Georgia PreK operating guidelines. Atlanta, GA: State of Georgia.

Office of School Readiness. (1997a). Prekindergarten program for four-year-old children [Brochure]. Atlanta, GA: Author.

Office of School Readiness. (1997b). Georgia PreK operating guidelines. Atlanta, GA: State of Georgia.

Office of School Readiness. (September 1, 1997c). How Four-year Olds Learn. Online. path-<http://www.osr.state.ga.gov/prac/4yrold/4yrold-1.htm>

Paget, K., & Nagel, R. (1986). A conceptual model of preschool assessment. School Psychology Review, 15, 154-165.

Peck, J., McCaig, G., & Sapp, M. (1988). Kindergarten policies. Washington, DC: National Association for the Education of Young Children.

Pendersen, D., & Wingert, P. (1996, February 3). Some HOPE for college. Newsweek, 129 (6), 44.

Peterson, E. (September 3, 1997). Developmentally Appropriate Practice. Online. path-<http://www.earlychildhood.com/articles/artdap.html>

Pilcher, L. (1994). The longitudinal study of Georgia's prekindergarten children and families. Atlanta, GA: Department of Early Childhood Education, Georgia State University.

Pre-kindergarten program gets mixed reviews from researchers. (1997, April 28). The Macon Telegraph, p. 1.

Purser, T. (1993, August 25). Jeff Davis among 127 sites chosen for lottery funding of pre-kindergarten program. The Jeff Davis County Ledger, p. 1.

Quay, L. (1993). A review of research on intervention with preschool children and families (Report No. PS 022 453). Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 371 857)

Quay, L. (1996, April). The longitudinal evaluation of Georgia's Prekindergarten program: Results from third year. Paper presented at the Annual Convention of the American Educational Research Association, New York, NY.

Ramey, S., & Ramey, C. (1994). The transition to school: Why the first few years matter for a lifetime. Phi Delta Kappan, 76, 194-199.

Reynolds, A. (1993, March). Effects of a preschool plus follow-up intervention program for children at risk. Paper presented at the Biennial Meeting of the Society for Research in Child Development, New Orleans, LA.

Richmond, J., & Kotelchuck, M. (1984). Commentary on changed lives. In J. Berrueta-Clement, L. Schweinhart, W. Barnett, Epstein, & D. Weikart (Eds.), Changed lives: The effects of the Perry Preschool Program on youths through age 19 (pp. 204-210). Ypsilanti, MI: High/Scope Educational Research Foundation.

Roberts, C. (1986). Whatever happened to kindergarten? Educational Leadership, 44 (3), 34.

Rodekohr, J. (1995, August 9). What makes a young child 'ready' for school? The Vidalia Advance-Progress, p. B3.

Sack, J. (1997, April 23). Advocates urge more federal spending for early-childhood programs. Education Week, p. 28.

Salvia, J., & Ysseldyke, J. (1988). Assessment in special and remedial education (3rd edition). Boston, MA: Houghton Mifflin.

Salyers, G. (1991). The critical preschool years. In D. Elkind (Ed.), Perspectives on early childhood education (pp. 141-148). Washington, DC: National Education Association.

Schulz, E. (1997, January 22). Gubernatorial guidance. Education Week, (Suppl.), pp. 91-93.

Schweinhart, L. (1988). A school administrator's guide to early childhood programs. Ypsilanti, MI: High/Scope Press.

Schweinhart, L. (1994). Lasting preschool programs (Report No. EDD-PS-94-2). Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproductive Service No. ED 365 478)

Schweinhart, L., & Weikart, D. (1993). A summary of significant benefits: The High/Scope Perry Preschool study through age 27. In L. J. Schweinhart & D. P. Weikart (Eds.), Significant benefits: The High/Scope Perry Preschool study through the age 27 (pp. 1-9). Ypsilanti, MI: High/Scope Press.

Schweinhart, L., Weikart, D., & Larner, M. (1986). Consequences of three preschool curriculum models through age 15. Early Childhood Research Quarterly, 1, 15-45.

Seawell, J., & Ross, G. (1992, April). Relationship between a prekindergarten intervention program and school success. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Shepard, L., & Smith, M. (1988). Escalating academic demand in kindergarten: Counterproductive policies. The Elementary School Journal, 89, 135-145.

Sherman, M. (1991, November 15). Miller spells out education lottery plan. The Atlanta Journal/ The Atlanta constitution, p. F3.

Slavin, R., Madden, N., Dolan, L., & Wasik, B. (1995, April). Success for all: A summary of research. Paper presented at the annual conference of the American Educational Research Association, San Francisco, CA.

Smith, S. (1986). An analysis of the predictive validity of the Developmental Indicators for the Assessment of Learning-Revised. Unpublished doctoral dissertation, North Carolina State University, Raleigh.

South Carolina Educational Network. (Producer). (1987). Developmentally appropriate practice [Videotape]. (Available from The National Association for the Education of Young Children, 1834 Connecticut Avenue, NW, Washington, DC, 20009)

Spodek, B. (Ed.). (1991). Educationally appropriate practices. Washington, DC: National Education Association.

Spodek, B., & Saracho, C. (Eds.). (1997). Issues in early childhood educational assessment and evaluation. New York, NY: Teachers College Press.

Spradley, J. (1980). Participant observation. Forth Worth: Reinhart and Winston, Inc.

U.S. Department of Education. (March 2, 1997). U.S. National Education Goals. Online. path-<http://www.ed.gov/pubs/StratPIn/goals.html>

Viadero, D. (April 16, 1997). Study paints mixed picture of benefits of PreK program in Ga. Online. path-<http://www.edweek.org/ew/current/29prek.h16>

Wallen, N., & Fraenkel. (1991). Education research: A guide to the process. New York: McGraw-Hill.

Warfield, M. (1994). A cost effectiveness analysis of early intervention service in Massachusetts: Implications for policy. Educational Evaluation & Policy Analysis, 16, 87-99.

Warger, C. (Ed.). (1988). Forward. In C. Warger (Ed.), A resource guide to public school early childhood programs (pp. v-vi). Alexandria, VA: Association for Supervision and Curriculum Development.

Wendt, R. (1979). Prekindergarten screening: Point-Counterpoints. Viewpoints in teaching and learning, 55, 18-24.

Willis, S. (Ed.). Early childhood education. Education Update, 39 (2), 5.

Wolf, J., & Kessler, A. (1987). Entrance to kindergarten: What is the best age? Arlington, VA: Educational Research Service.

Zigler, E. (1992). [On-line]. Head start: The inside story of America's most successful education experience. Scranton, PA: Harper Collins Publisher.

Zigler, E., Taussig, C., & Black, K. (1992). Early childhood intervention: A promising preventative for juvenile delinquency. American Psychologist, 47, 997-1006.

APPENDICES

Appendix A

Authorities on Best Practice for
Kindergarten Instruction

The following individuals served as experts in the field of early childhood and kindergarten instruction. Each individual is a certified teacher in the state of Georgia at the PK and primary levels. They each have had several years of experience teaching young children.

Betty Carithers
PreK Consultant
Office of School Readiness

Becky Mobley
SLD/EBD Teacher
Jeff Davis County Schools

Sheryl Crump
Kindergarten Teacher
Jeff Davis County Schools

Pam Seebeck
PreK Teacher
Jeff Davis County Schools

Cindy Girtman
PreK Teacher
Jeff Davis County Schools

Dr. Lula Mae Perry
Instructional Coordinator
(former Jeff Davis Primary
principal)
Jeff Davis County

Jane Elder
SIA Teacher
Jeff Davis County Schools

Appendix B

Libby Kimball
 818 Miracle Lane
 Vidalia, Georgia 30474

November 13, 1997

Mr. _____
 601 N. Pierce Street
 _____, Georgia _____

Dear Mr. _____:

Georgia's lottery-funded Prekindergarten program was conceived with the goal of preparing its participants for school success. In an effort to investigate the initial impact of the lottery-funded Prekindergarten program, I am conducting a study through Georgia Southern University with the objective of assessing the preparedness for kindergarten of Georgia's lottery-funded Prekindergarten program participants.

Kindergarten classes within your school system met criteria for inclusion in this study by the fact that your school system is considered predominantly rural and the DIAL-R is used during kindergarten screening. Kindergarten teachers within your school system will be asked to provide data about entering kindergartners. No personally identifiable data about individual students, individual schools, or individual school systems will be obtained.

Although responses from all selected kindergarten classes are important for the accuracy of this research, participation in the study is voluntary, and there is of course no penalty for non-participation. There are no known or anticipated risks from participation in this study. You are assured that all data will be treated in a confidential manner and only aggregate data that is in no way personally identifiable will be compiled and reported.

Following your receipt of this letter, I plan to contact you personally to answer any questions you might have. Should you have any additional questions or concerns, please feel free to contact me at 912-538-0270. You may also contact the Institutional Review Board Coordinator, Mr. Neil Garretson or the Institutional Review Board Chairperson, Dr. Howard Kaplan, at the Office of Research Services and Sponsored Programs at 912-681-5465. Upon completion of this study, you will be mailed a summary of the results.

Thank you for your time and efforts and all that you do to help ensure a quality education for Georgia's students.

Sincerely,

Libby Kimball
 Special Education Director/ PreK Coordinator/Jeff Davis Schools

Appendix C

LIBBY KIMBALL
Special Education and PreK Director
Jeff Davis County Schools
818 Miracle Lane
Vidalia, Georgia 30474

Telephone 912-538-0270

November 14, 1997

Dear _____:

Children who enter school today have been exposed to a spectrum of preschool experiences ranging from formal preschool education to complete environmental deprivation. As a kindergarten teacher, you face the challenging and difficult task of meeting these students' individual needs and preparing them for school success. The impact that you make as the child's first teacher in the public school can be life-long.

Georgia's lottery-funded PreK program was conceived with the goal of making your job easier. The mission of the program was to prepare its participants for school success. With millions of lottery dollars being invested in this program, evaluation is critical. Future funding may depend on positive results.

In an effort to investigate the initial impact of Georgia's lottery-funded PreK program, I am conducting a study through Georgia Southern University which assesses the preparedness of Georgia's lottery-funded PreK participants. This study is being conducted with your school system's support.

In order to gain a complete understanding of this topic, your participation is crucial to the success of this project. A data collection sheet has been included on the back of this letter which should take approximately 20 minutes to complete. **Please complete this and return it in the enclosed envelope within the next two weeks.** Confidentiality is guaranteed and individual data is not reported in the results. You will receive a synopsis of the results by mail after the study is completed.

Thank you in advance for making the time in your very busy day to complete this sheet and for your efforts with young children in Georgia's public school system. If you have any questions, I can be reached at the above telephone number.

Sincerely,

Appendix D

DATA COLLECTION FORM

Directions: Please respond for each child in your class by placing a check mark (✓) in the appropriate columns. Each child should have a check mark for type of preschool experience, race, and gender. The DIAL-R Total Score should also be recorded. Type of preschool experience should include participation in a Head Start Program, Georgia's Lottery-Funded Prekindergarten Program, other forms of preschool experience (ex. day care, church, private), or no participation in any type of program. Please do not include children who are repeating kindergarten.

[illegible]

Appendix E

LIBBY KIMBALL

Special Education/PreK Director Jeff Davis County

818 Miracle Lane
Vidalia, Georgia 30474

Telephone 912-538-0270

Fax 912-537-9889

December 10, 1997

Dear Kindergarten Teacher:

Recently, a data sheet for recording DIAL-R Total Scores and other information about your kindergarten students was sent to you. If you have returned this data sheet, thank you for your response. If you have not yet had the opportunity to complete this data sheet, please complete it and return to me at your earliest convenience. I know this is a very busy time for you as the upcoming holidays approach, but it would be most helpful if you could return the data sheet before you leave for the holidays.

In the event that you did not receive the original data sheet, I am sending a duplicate copy. I am enclosing a stamped reply envelope. If it would be easier for you, you may fax the data sheet to the above number.

I appreciate your time and efforts in helping me gather this data.

Cordially,

Libby Kimball

Appendix F

Libby Kimball
912-538-0270
818 Miracle Lane
Vidalia, Georgia 30474

February 1, 1998

Mr. _____, Superintendent
Courthouse
_____, GA _____

Dear Mr. _____:

Recently, I contacted you requesting permission to conduct educational research involving your system. After receiving your permission, I contacted kindergarten teachers in your system. I wanted to take this opportunity to thank you for the response that I received from _____ County. The return rate is 100%. This participation will certainly add to my study and reflects well on the school system.

I have not compiled and analyzed all of the data. When the research is complete, I will be sending a synopsis.

Sincerely,

Libby Kimball
Special Education/Pre-K Director
Jeff Davis County Schools

Appendix G

April 25, 1998

Libby Kimball
818 Miracle Lane
Vidalia, Georgia 30474

To kindergarten teachers who participated in this study:

Earlier in the school year, you completed a data collection sheet which provided me with data I needed to complete my study, Georgia's Lottery-Funded PreK: Is it Working in Rural Southern Georgia. This study has been finished. Below is a synopsis of the results:

Sample Size and Return Rate

Kindergarten teachers in twelve systems in rural southern Georgia participated in this study. This included 83 kindergarten teachers for a total of 1,211 entering kindergarten students.

Demographic Information

Of the 1,211 kindergarten students, 599 were male and 612 were female. The racial distribution indicated that 639 students were white, 524 students were black, and 48 students were of other races. The majority of the students participated in Georgia's lottery-funded PreK (695); students who participated in no program had the second highest representation (209); participation in Head Start has the second lowest representation (178); and 129 students participated in the category of other prekindergarten programs (private, church, or day-care).

Analysis of Results and Discussion

The application of a one-way ANOVA yielded the following results:

- (1) Students who participated in Georgia's lottery-funded PreK program were significantly more prepared to enter kindergarten than students who did not participate in any program.
- (2) Students who participated in the category of other prekindergarten programs were significantly more prepared to enter kindergarten than students who did not participate in any program.
- (3) Females were more prepared to enter kindergarten than males.

Recommendations

- (1) Support and funding for developmentally appropriate prekindergarten programs should continue.
- (2) Schools should revise curriculum expectations and retention practices for kindergarten children to reflect existing educational research.

(3) Students who received no prekindergarten experience were not prepared for kindergarten. Communities should organize efforts to locate and educate these families.

I appreciate the time and effort that you took to help me complete this study. If you are interested in a more detailed account of the results, please call me at 912-538-0270.

Cordially,

Libby Kimball

cc: participating system superintendents